

The Impact of Sexism and Age on Men and Women's Menopausal Attitude

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Abstract

This study compared men and women's menopausal attitude and compared the influence of endorsed sexism and age on their attitude. Understanding these differences is crucial for not only gaining a comprehensive picture of menopausal attitudes in society, but also of the male menopausal attitude which was so far overlooked in research. Not only the female, but also the male menopausal attitude can impact women's menopausal experience, with negative attitudes exacerbating women's symptoms and coping difficulties during menopause.

Therefore, this study can inform the development of educational efforts targeting not only women but also men to reduce the stigma surrounding menopause, ultimately improving the wellbeing of menopausal women. Hypotheses proposed that women would have a more positive menopausal attitude than men, higher sexism endorsement would be connected to a more negative attitude (with this relationship being stronger for men), and older people would have a more positive menopausal attitude, with this relationship being stronger for women. A correlational research design tested the hypotheses using a sample consisting of 207 participants who completed an online survey assessing their menopausal attitude, endorsed sexism, gender and age. Independent samples t-tests revealed that while men and women's menopausal attitude was similar, men endorsed on average more sexism than women.

Moderation analyses showed that sexism did not influence people's menopausal attitude, and there was no difference between genders in this regard. Additionally, while older individuals held a more positive menopausal attitude, this did not vary based on gender. This study highlighted that men and women's menopausal attitude is similar and improves similarly with age. The results should be considered in light of limitations, such as a skewed gender distribution and a biased sample, emphasising the need for more inclusive and diverse research on this topic. This study calls for more educational efforts on menopause to fight the stigma connected to it, consequently improving women's menopausal experience.

Keywords: menopause, attitude toward menopause, gender differences, sexism, age

The Impact of Sexism and Age on Men and Women's Menopausal Attitude

In women's middle adulthood, the onset of menopause represents a significant, universal, and natural life transition. Typically occurring between the ages of 45 and 55 years, with the average age being 51, menopause is an essential part of biological ageing in women (Dashti et al., 2021; Namazi et al., 2019; World Health Organisation, 2022). Defined by the cessation of ovarian follicular function and the subsequent end of menstruation, it marks the conclusion of a woman's reproductive years. Clinical recognition of menopause is established after 12 consecutive months without menstruation, absent any other identifiable physiological or pathological cause (Hoga et al., 2015; Hvas, 2001; Nusrat et al., 2008; Rees et al., 2021; World Health Organisation, 2022). The hormonal changes accompanying menopause can give rise to a variety of severe symptoms, experienced by an estimated 20-25% of women (Borker et al., 2013; Rees et al., 2021; Rowson et al., 2023). These can include hot flushes, night sweats, vaginal dryness, sleeping difficulties, alterations in mood, and decreased libido (Deeks et al., 2008; Rees et al., 2021; Rowson et al., 2023; Santoro et al., 2021; World Health Organisation, 2022).

It is commonly assumed that symptoms and biological changes associated with menopause are universal for all women (Lock, 2002; Melby et al., 2005). However, research showed that culture, alongside biology, significantly influences women's menopausal experience (Obermeyer, 2000; Robinson, 1996). Freeman and Sherif (2007) and Lock (2002) highlight that particularly the incidence of vasomotor symptoms, such as hot flushes and night sweats, is not equally distributed between nor among populations of menopausal women. For instance, Beyene (1986) found no reports of hot flushes or cold sweats among Mayan women from Mexico. Contrastingly, these are commonly reported symptoms among Northern European women (Beyene, 1986; Lock, 2002). Interestingly, 80% of Tanzanian menopausal women reported hot flushes (Okonofua et al., 1990), compared to 30% of Nigerian women (Moore & Kombe, 1991). Japanese women reported hot flushes so infrequently that there is

no word to describe them in Japanese (Lock, 1986). Lock (2002) suggests that reasons for these cultural-related differences in women's symptom reporting may include whether the end of menstruation is culturally marked, dietary differences, individual self-esteem and social roles. To conclude, menopause is a complex female experience shaped by biology and physical changes as well as cultural and individual differences (Robinson, 1996).

Positive Menopausal Experiences

Beyond the symptomology, menopause remains a multifaceted experience for women and can be associated with positive experiences, too. Hvas (2001) and Nusrat et al. (2008) emphasize the relief women report particularly about the ending of menstruation but also of attached problems such as premenstrual syndrome, contraception, and fear of pregnancy. Also, women frequently articulate the menopausal years as a period of possibilities where they learn to focus more on their own needs, foster personal growth, and enjoy newfound freedom (Hvas, 2001; Hvas, 2006). Furthermore, Perz and Ussher (2008) found that women position the menopausal years as a time of positivity, with increased confidence and wisdom from experience and more self-awareness and feelings of self-worth. Also, while the majority of middle-aged women indeed experiences at least some menopausal symptoms, interestingly, relatively few define their symptoms as a problem or find the menopausal transition a difficult time in general (Lock, 2002; Porter et al., 1996). These findings underscore the existing diversity in menopausal experiences and challenge the prevailing negative depiction of menopause in Western society.

Public Discourse and Education

Interestingly, in many non-European countries, the public discourse of menopause is quite positive. For example, in Japan, menopause is viewed as a transition and a new purpose, rather than a loss. Also, Native American societies consider menopausal women as "women of wisdom". Moreover, many non-European cultures do not use the word menopause but refer

to it as the “change of life”, recognizing it as a natural life transition in which medical interventions may not be desired (Continence Foundation of Australia, 2022).

Contrastingly, discussions of menopause in Western countries often neglect its positive aspects which reinforces a negative narrative primarily associating menopause with unpleasant physical and/or psychological complaints as well as female ageing (Hvas, 2001; Hvas, 2006). Hence, menopause and its accompanying symptoms tend to be highly medicalised in Western countries (Continence Foundation of Australia, 2022). Consequently, women who report positive experiences during menopause are not included in public discussions of this topic (Deeks et al., 2008; The Lancet, 2022; World Health Organisation, 2022). Notably, the negative, medicalised portrayal of menopause is not only confined to mass media depictions but is also perpetuated by scientific literature (Deeks et al., 2008; Gannon & Stevens, 1998; Rowson et al., 2023). As a result, in Western countries a stigma is collectively reinforced which presents menopausal women as individuals impaired by physical and/or psychological problems (Rowson et al., 2023; Tariq et al., 2023).

The lack of a comprehensive discussion of menopause also extends to educational foundations (Hoga et al., 2015; Tariq et al., 2023; World Health Organisation, 2022). Historically, little to no education on menopause has left generations of women with a significant knowledge gap (Munn et al., 2022). Notably, 90% of women report never learning about menopause in school and most women feel uninformed about it altogether (Harper et al., 2022; Hoga et al., 2015; Munn et al., 2022; Tariq et al., 2023). Men receive even less education on menopause and ways to support menopausal women (Yarelahi et al., 2021), suggesting a large knowledge gap in men, too. Thus, proper education of menopause for both men and women is crucial but rare. Importantly, the negative depiction of menopause in Western society and the lack of education on it exert a strong influence on people’s attitude toward menopause (Ayers et al., 2010; Hoga et al., 2015; Nusrat et al., 2008).

Menopausal Attitude and Influencing Factors

A menopausal attitude is the assessment and stance toward menopause and menopausal women (Neugarten et al., 1963). The majority of existing research examined women's menopausal attitude. Notably, it was found that women's menopausal attitude is related to the severity of their menopausal symptoms and overall experience of menopause (Avis & McKinlay, 1991; Yanikkerem et al., 2012). Thus, women with a more negative attitude toward menopause experience more menopausal symptoms (Aksu et al., 2011; Ayers et al., 2010; Yanikkerem et al., 2012). Albeit researched less, men's menopausal attitude was also found to be influential as more negative menopausal attitudes of male spouses were related to more severe symptoms in menopausal women and impaired coping strategies with menopause (Aksu et al., 2011; Parish et al., 2019). Also, a negative menopausal attitude of male co-workers or supervisors can negatively impact the treatment of menopausal women in work-related settings (Rees et al., 2021; Waterfield, 2021). Thus, both men and women's menopausal attitude can be decisive for women's menopausal experience. Still, a direct comparison of men and women's menopausal attitude is lacking in the current literature. Understanding similarities and differences in menopausal attitudes between men and women is crucial for a comprehensive understanding of the impact of such attitudes on menopausal women and individuals around them.

Sexism

When comparing men and women's menopausal attitude, it is essential to recognise the pervasive influence of gender-related expectations and biases, particularly those rooted in sexism. Sexism manifests through discriminatory beliefs, stereotypes, and acts toward a specific gender group (Masequesmay, 2022). While sexism against men exists (Benatar, 2012), sexism is largely defined as a means serving to rationalise and justify patriarchal social relations that are characterized by the structural domination of men over women (Manne, 2017). In Western society, the topic of menopause is highly stigmatised due to its association with female ageing and the view that a woman's value is dependent on her reproductive

ability (Mullins, 2022). Depicting women as less valuable when reaching menopause clearly contains sexist elements, therefore, it is possible that negative views of menopausal women may be connected to internalised sexist beliefs.

The sexist (and ageist) notion that a woman's value declines after her reproductive years may strengthen negative attitudes toward menopause, potentially more strongly in men. Given that research consistently showed that men tend to endorse more sexism than women, a trend stably observed across different countries and cultures (Barreto & Doyle, 2023), it is reasonable to expect that men's attitude toward menopause may be more negatively influenced by their endorsed sexism than the menopausal attitude of women. Moreover, it is possible that men who endorse more sexism may perceive menopause more negatively, as men tend to link female ageing to reduced sexual attractiveness (Bovet et al., 2018). In contrast, women may have a more nuanced view on menopause, due to personal or vicarious menopausal experiences, possibly making them less susceptible to internalised sexist views affecting their menopausal attitude as strongly. Exploring the differential impact of endorsed sexism on men and women's attitude toward menopause is important, not only because it was not yet addressed in research, but also to unveil potential disparities between men and women in how their endorsement of sexist beliefs may shape their menopausal attitude. This investigation can provide a deeper understanding of gender differences in menopausal attitudes and inform targeted educational strategies accordingly.

Age

People's menopausal attitude may not only be influenced by their internalised sexist beliefs, but their age might function as an influential factor, too. Indeed, research highlights women's age as influential, with younger women exhibiting more negative attitudes toward menopause than middle-aged and older women. Older women tend to view menopause more as a natural phenomenon, show less concern about losing reproductive potential, and see menopause less as a critical or drastic event (Ayers et al., 2010; Neugarten et al., 1963). This

attitudinal shift is attributed to the menopausal experience itself, with women becoming less negative toward menopause as they go through it (Ayers et al., 2010). These findings highlight the importance of educating particularly younger women about the menopause and thereby prepare and support them better for its onset. Such educational efforts are crucial as women who are adequately educated on menopause are more likely to effectively manage the challenges that may occur in this period and experience less symptoms, too (Hashemian et al., 2020).

Still, whether age impacts men's menopausal attitude is unclear. Similarly to women, it is possible that older men might have a more positive menopausal attitude than younger men, as they may be more likely to have partners or close female friends who go or have gone through menopause. Therefore, older men may have more first-hand exposure to the challenges and changes associated with this life transition, contributing to a more positive menopausal attitude. However, this relationship might not be as strong as it is for women, given that women experience menopause directly and make first-hand experiences with it. Exploring the impact of age on men's menopausal attitude is necessary because it may not only offer a more holistic understanding of the male menopausal attitude in general but may also provide insights into how this attitude changes as men age. Specifically, this exploration could reveal that as men age, their menopausal attitude becomes more positive. Consequently, younger men, who may be more likely to have a less positive menopausal attitude might particularly benefit from education on menopause in order to get a more realistic picture of it.

This Study

This study investigated the variations in menopausal attitude between men and women, further considering the influence of endorsed sexism and age on this attitude, and whether this influence differed between men and women. The primary goal of this study was to contribute to a more comprehensive understanding of menopausal attitudes among men and women, informing educational efforts which challenge existing stereotypes surrounding

menopause. Despite extensive literature on women's menopausal attitude and the influence of age on their attitude, there is a significant gap in understanding men's attitude toward menopause and the influence of age on it. Similarly to the female attitude, the male attitude is decisive because it can significantly impact women's menopausal experience, with a negative male attitude exacerbating women's symptoms and coping difficulties. Therefore, researching men's menopausal attitude and the influence of age on it is important as it can provide a comprehensive understanding of the male menopausal attitude and inform educational efforts on menopause targeting men. Also, how sexism endorsement may influence men and women's menopausal attitude remains an unexplored matter. Exploring this is essential for uncovering whether underlying gender-related expectations and biases influence attitudes toward menopause and whether this differs between men and women. Ultimately, this exploration may provide insights that can inform interventions to challenge and mitigate these biases rooted in sexism, fostering a more inclusive and accurate understanding of menopause in both men and women. It was hypothesised that women would have a more positive menopausal attitude than men. Furthermore, it was predicted that people with higher endorsement of sexist beliefs would have a more negative menopausal attitude, and this relationship was expected to be stronger for men. Moreover, older people in general were predicted to have a more positive menopausal attitude than their younger counterparts, and this relationship was expected to be stronger for women.

Methods

Design

This study employed a correlational research design to systematically examine the relationships between the variables through quantitative data analysis. The Ethics Committee of the Faculty of Behavioural, Management and Social Sciences at the University of Twente provided ethical approval for this study, with the reference number 231487.

Participants

Based on a G*Power analysis (v3.1.9.6; Faul et al., 2009), powered for the interaction effect between the independent variables, a minimum of 85 participants were required in order to observe a medium effect size ($f^2 = 0.15$) for linear regression analysis with an alpha of .05 and a power level of .80. To observe a small effect size ($f^2 = 0.02$), 602 participants were required. Our sample was closer to the required sample size for observing a medium effect size. Therefore, we focused on detecting medium effect sizes which is also consistent with previous research on menopause in which medium effect sizes were frequently reported (e.g., Andy et al., 2024; Pan et al., 2020). Participants were recruited using a convenience and snowball sampling method, via the SONA recruitment system of the University of Twente as well as the researchers' personal and social networks.

Overall, 533 participants started the survey. From those, 309 participants (58.0%) were excluded as 266 did not finish the survey (49.9%), 43 did not give informed consent (8.1%), and 13 had missing values on the relevant measures (2.4%). The remaining sample consisted of 211 participants in total, including 186 identifying as female (88.2%), 21 as male (10.0%) and four identifying as something beyond the binary construct (1.9%). The latter four were excluded, as this study specifically focused on those identifying as male or female only. Thereof, the final sample consisted of 207 participants in total. The participants' mean age was 46 years ($SD = 16.85$), with the minimum age 18, and maximum age 78. Overall, 56 participants were between 18-30 years old (27.3%), 25 were between 30-45 (12.2%), 46 were between 45-55 (22.4%), 49 were between 55-65 (23.9%), and 29 were above 65 years old (14.1%). For a comparison of the age distributions between men and women, see Table 1.

Table 1*Age Distribution Among Men and Women*

Age	Men		Women	
	<i>n</i>	%	<i>n</i>	%
18-30	10	47.6%	46	25.0%
30-45	1	4.8%	24	13.0%
45-55	2	9.5%	44	23.9%
55-65	3	14.3%	46	25.0%
65+	5	23.8%	24	13.0%

Note. N = 207

The following nationalities were present in our sample: 55.1% Dutch (n = 114), 29.0% German (n = 60), 9.2% Turkish (n = 19), and 6.8% had other nationalities (n = 14), such as Belgian, French, Finnish, Italian, and more. For more demographic characteristics of our study's sample, see Table 2.

Table 2*Summary of the Sample's Characteristics*

Baseline Characteristics	<i>n</i>	%
<i>Education</i>		
Primary school education	3	1.4%
Secondary school education	23	11.1%
Vocational secondary education	39	18.8%
Bachelor's degree	69	33.3%
Master's degree or PhD	73	35.3%
<i>Marital status</i>		
Married / in a registered partnership	93	44.9%
Divorced / separated	28	13.5%
Widowed	7	3.4%
Never married	79	38.2%
<i>Employment status</i>		
Working full-time	52	25.1%
Working part-time	62	30.0%
Unemployed / looking for work	9	4.3%
Homemaker / stay-at-home parent	12	5.8%
Student	32	15.5%
Retired	26	12.6%
Other	14	6.8%

Note. N = 207

Procedure

This study aimed to include a diverse range of participants. Thus, recruitment efforts were broad, spanning various ages and cultural backgrounds. Consequently, our study did not target a specific group of participants. Still, participants needed to be at least 18 years old to participate. We utilised multiple channels for recruitment, including social media platforms (e.g., LinkedIn, Facebook, Instagram), personal networks, as well as the SONA system of the University of Twente. In the online descriptions of our study, we offered a recruitment message (see Appendix A), outlining the study's broad aim, along with a link to the sign-up form. Within this form, participants were given the opportunity to select their preferred language for completing the study - Dutch, German or English. Then, they received further information on the study, including its duration, content, and contact details of the researchers. After participants gave informed consent to participate, they filled in demographic information, including gender and age. Subsequently, participants provided their email addresses and were informed that they would receive an invitation to the first main survey via email after one week.¹ This invitation was sent out one time to the participants. It included a link to the main survey, which was conducted online using the survey tool *Qualtrics*. This survey assessed participants' menopausal attitude as well as their level of endorsed sexism. After completing the survey, participants received information on how to contact the researchers in case of further questions or remarks. As the survey also included questionnaires from other researchers in the field, it took approximately 30 minutes to complete.

Measures

Menopausal Attitude

¹ The main study consisted of four surveys in total, sent to participants over a period of one year. However, for this paper, only the first survey was relevant.

The participants' menopausal attitude was assessed using the Attitudes Towards Menopause (ATM) scale, developed by Neugarten et al. (1963). We chose this scale for measuring menopausal attitudes within our sample as it was specifically designed for assessing people's menopausal attitude. This makes it directly relevant to studies, such as ours, investigating attitudes toward this life transition. Also, the ATM scale has been widely used (in its total or modified form) in previous research (Ayers et al., 2010), and its reliability and validity has been frequently evaluated. This makes it an important and robust scale for assessing menopausal attitudes (Ghazanfarpour, 2023), and therefore an appropriate choice for our study.

The ATM scale asks about general attitudes towards menopause and includes items on negative affect, extent of continuity, control of symptoms, sexuality, unpredictability, psychological losses, and postmenopausal recovery (Ayers et al., 2010; Neugarten et al., 1963). Overall, it consists of 35 statements (16 positive items and 19 negative items) on menopause, for example "Women often use the change of life (menopause) as an excuse for getting attention" and "Life is more interesting for a woman after the menopause". Participants indicated their agreement or disagreement with each statement on a 4-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). After considering reversed scores, higher sum scores (35 - 140) indicated a more positive attitude toward menopause. The Cronbach's alpha for the ATM scale in our study was .64.

Sexism

Participant's level of endorsed sexism was measured using the Neosexism Scale, developed by Tougas et al. (1995). This scale measures contemporary forms of sexism by focusing on support for public policies designed to enhance the status of women. Interestingly, Campbell et al. (1997) suggest that this scale allows respondents to express sexist attitudes without explicitly admitting that they believe women being inferior to men. Thus, this scale is suggested to be a sensitive measure of modern prejudices based on gender

(Campbell et al., 1997). Overall, the Neosexism Scale comprises 11 items in the form of statements such as “I consider the present employment system to be unfair to women” and “It is difficult to work for a female boss”. For the first item which was initially formulated as “Discrimination against women in the labour force is no longer a problem in Canada”, we replaced the word “Canada” with “my country” in order to make it more fitting to a diverse sample. All items were measured on a 7-point Likert scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). After considering reversed scores, higher sum scores (11 - 44) reflected higher levels of endorsed sexism. The Cronbach’s alpha for the Neosexism Scale in our study was .81.

Data Analysis

Data was analysed using R (version 4.2.3). First, descriptive statistics were calculated to obtain information about demographic variables, result distributions and Pearson’s correlations between the variables. Then, a logarithmic transformation was applied to account for an identified skew in both the menopausal attitude and sexism variable. Subsequently, an independent samples t-test was employed to assess overall gender differences in both menopausal attitude and sexism. After that, two separate moderator analyses using linear regression were performed. The first moderator analysis examined whether gender moderated the relationship between sexism (continuous variable) and menopausal attitude. The interaction effects were explored by introducing an interaction term (gender * sexism) into the regression model of this analysis. The second moderator analysis investigated whether gender moderated the relationship between age (continuous variable) and menopausal attitude. The interaction effects were explored by introducing an interaction term (gender * age) into the linear regression model of this analysis.

Results

Descriptive Statistics

Responses on the menopausal attitude scale exhibited a negative skew of -0.33, indicating that most participants tended to have higher scores on menopausal attitude, hence a rather positive attitude. Conversely, the responses on the sexism scale showed a positive skew of 1.18, suggesting that most participants leaned towards lower levels of endorsed sexism. Further analyses revealed that the assumption of normality was violated for both the menopausal attitude and sexism variable. A subsequent logarithmic transformation did not change the significance levels of the p-values resulting from the main analyses. When presenting the results of the analyses, the results of both non-logged and logged variables will be presented. Moreover, the assumption of homogeneity of variances assumption was violated for the menopausal attitude variable across the two groups on the gender variable. However, this assumption was not violated for the sexism variable across the two groups on the gender variable. Finally, the assumptions of linearity and multicollinearity were not violated. For the sample's mean and standard deviation scores on menopausal attitude and sexism, as well as the overall score ranges, see Table 3.

Table 3

Means, Standard Deviations, and Score Ranges of the Scales

	<i>M</i>	<i>SD</i>	Lowest Score	Highest Score
<i>Menopausal Attitude</i>	2.48	0.23	1.74	3.14
Female Menopausal Attitude	2.48	0.24	1.74	3.14
Male Menopausal Attitude	2.49	0.15	2.09	2.66
<i>Sexism</i>	2.19	0.81	1.00	6.00
Female Sexism	2.13	0.74	1.00	4.55
Male Sexism	2.70	1.14	1.18	6.00

Bivariate Correlations

The results of the Pearson's correlation tests showed that menopausal attitude and age were significantly positively associated, $r(205) = .37, p < .001$, meaning that older people reported a more positive menopausal attitude, and vice versa (Table 4). Interestingly, a significant positive relationship was found between women's menopausal attitude and age, $r(184) = .37, p < .001$, while sexism was significantly negatively associated with men's menopausal attitude, $r(19) = -.62, p < .002$.

Table 4

Pearson's Correlation Coefficients for the Correlations Between the Dependent and Moderator Variables

	1	2	3
1. Menopausal Attitude	1.00		
2. Sexism	-.09	1.00	
3. Age	.37*	-.00	1.00

Note. Significant at $*p < .001$

Gender Differences in Menopausal Attitude and Sexism

The mean scores of men and women's menopausal attitude were comparable, as women scored on average 2.48 ($SD = 0.24$), and men 2.49 ($SD = 0.15$). The independent t-test revealed no significant difference in menopausal attitudes between men and women, $t(32.4) = -0.35, p = .728$. Also, after running this analysis with the logged menopausal attitude variable, no significant difference was found, $t(32.1) = -0.47, p = .640$. These findings suggest that, in our sample, there was no overall statistically significant gender difference in menopausal attitude. However, significant gender differences were found on the menopausal attitude scale's second item ("Unmarried women have a harder time than married women do at the

time of the menopause”), third item (“If the truth were really known, most women would like to have themselves a fling at this time of their lives”), item 11 (“A woman is concerned about how her husband will feel toward her after the menopause”) and item 28 (“Menopause is an unpleasant experience for a woman”), see Table 5.

When it comes to endorsed sexism, women scored on average 2.13 ($SD = 0.74$), and men 2.70 ($SD = 1.14$) and this difference was found to be statistically significant, $t(21.9) = -2.24, p < .05$. Moreover, men and women scored significantly different on the Neosexism scale’s fifth item (“It is difficult to work for a female boss”), sixth item (“Women’s request in terms of equality between the sexes are simply exaggerated”) and tenth item (“Due to social pressures, firms frequently have to hire underqualified women”). For an overview of the group means on menopausal attitude and sexism, their separate items which yielded significant gender differences, as well as for the p-value resulting from the t-tests, see Table 5.

Table 5

Group Means for Menopausal Attitude and Sexism and P-Values Resulting From Independent T-Test

	Female		Male		<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Menopausal Attitude</i>	2.48	0.24	2.49	0.15	.728
Item 2	3.34	0.79	2.71	0.85	.003
Item 3	1.53	0.74	1.90	0.70	.030
Item 11	2.78	0.92	2.38	0.80	.044
Item 28	2.07	0.81	1.76	0.54	.026
<i>Sexism</i>	2.13	0.74	2.70	1.14	.035
Item 5	2.17	1.46	1.52	1.12	.023
Item 6	1.71	1.20	2.81	1.44	.003*
Item 10	2.09	1.39	3.67	1.53	< .001*

Note. Only scale items are reported on which men and women scored significantly differently - the remaining items yielded no significant difference; *Still significant after Benjamin-Hochberg correction

Due to the large number of comparisons conducted within the scales, the Benjamin-Hochberg procedure was applied to adjust the resulting p-values. Despite initially observing p-values below the conventional significance threshold of .05 on items 2, 3, 11, and 28 of the menopausal attitude scale (see Table 5), none of these differences were statistically significant after applying the correction. For the items on the sexism scale, only items 6 and 10 still yielded significant p-values after applying the Benjamin-Hochberg correction.

Moderation of Gender

In our analysis of main effects, we found that neither gender ($b = 0.01$, $SE = 0.05$, $t(205) = 0.25$, $p = .805$) nor sexism ($b = -0.03$, $SE = 0.02$, $t(205) = -1.34$, $p = .182$) significantly predicted menopausal attitude. However, age emerged as a significant predictor ($b = 0.01$, $SE = 0.00$, $t(205) = 5.65$, $p < .001$), indicating that older participants tended to have a more positive menopausal attitude. Subsequent analyses of moderation effects revealed no evidence of gender moderating the relationship between sexism and menopausal attitude ($b = -0.07$, $SE = 0.05$, $t(203) = -1.34$, $p = .182$), nor did gender moderate the relationship between age and menopausal attitude ($b = -0.00$, $SE = 0.00$, $t(203) = -0.78$, $p = .434$). Including the logged variables into the regression models also did not yield significant effects. For an overview of the betas, standard errors, t-, p-, and r-squared values resulting from the two separate analyses, including either logged or non-logged variables, see Table 6.

Table 6

The Effect of Sexism and Age on the Relationship Between Gender and Menopausal Attitude

Interaction Term		<i>b</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>R</i> ²
Gender * Sexism	Raw Scores	-0.07	0.05	-1.34	.182	0.02
	Transformed Scores	-0.08	0.06	-1.43	.155	0.02
Gender * Age	Raw Scores	-0.00	0.00	-0.78	.434	0.14
	Transformed Scores	-0.00	0.00	-0.75	.452	0.14

Note. Raw scores resulted from analysis with non-logged variables, transformed scores

resulted from analysis with logged variables

Discussion

This study investigated the differences in men and women's menopausal attitude and further examined the influence of people's endorsed sexism and age on these gender-related

disparities. The results showed that there was no difference in men and women's menopausal attitude. Therefore, our initial hypothesis, proposing that women would have a more positive menopausal attitude than men, was not supported by our data. Moreover, men endorsed more sexism than women. Still, our second hypotheses, proposing that people with higher endorsement of sexist views would have a more negative menopausal attitude compared to those with lower sexism endorsement and this relationship being stronger for men, was not supported by our data. Furthermore, the results showed that while age indeed impacted people's menopausal attitude in general (with older individuals endorsing a more positive menopausal attitude than younger individuals), age did not influence men and women's menopausal attitude differently. Therefore, our last hypothesis proposing that older people have a more positive menopausal attitude than their younger counterparts, and this relationship being stronger for women, was only partly supported by our data.

Gender Differences in Menopausal Attitude

This study found no overall gender differences in people's menopausal attitude. Traditionally, menopause has been portrayed as a negative experience that is confined to women and is stigmatised and overlooked in educational curricula, medical training, and public discussions (Chrisler, 2013; Harper et al., 2022; Hoga et al., 2015; Rowson et al., 2023; Tariq et al., 2023). Given these factors, it was reasonable to expect that men, not directly affected by menopause, would hold a more negative attitude toward it than women. Nevertheless, our study challenged this assumption, suggesting that men's attitude toward menopause is comparable to women's, here, an attitude that is on average neutral. This is a promising finding which stimulates a re-evaluation of the assumptions surrounding gendered views of menopause and the need to acknowledge men's awareness and perspectives of menopause which seem to be not as lacking as expected. This finding, resulting from a direct comparison of men and women's menopausal attitude, adds to existing literature that has so far, primarily assessed their menopausal views and attitudes in separate research (e.g.,

Caçapava Rodolpho et al., 2016; Ghazanfarpour et al., 2015; Parish et al., 2019; Tariq et al., 2023).

When zooming further into our findings, it is noteworthy that significant gender differences in menopausal attitude emerged concerning the statement “Unmarried women have a harder time than married women do at the time of menopause”, with men agreeing more strongly with this statement than women. This finding may reflect the prevailing cultural belief that marital status significantly influences a woman’s wellbeing, particularly during significant life transitions such as the menopause. Indeed, studies have consistently shown that unmarried individuals are more inclined to experiencing less wellbeing and poorer psychological health compared to married individuals (Hsu & Barrett, 2020; Soulsby & Bennett, 2015). However, this does not necessarily mean that unmarried women have a harder time coping with menopause. It is possible that men in particular may be more inclined to perceive the lack of a spouse as a disadvantage for menopausal women as they are traditionally socialized to view themselves as protectors and providers within the marital context (Chen et al., 2009; Dolan, 2023).

While our study emphasised the comparability of men and women’s menopausal attitude in general, it remains important to acknowledge previous research indicating that negative menopausal attitudes, whether held by men or women, all have the potential to negatively impact women’s menopausal experience as well as marital satisfaction (Aksu et al., 2011; Ayers et al., 2010; Parish et al., 2019; Thapa & Yang, 2022; Yanikkerem et al., 2012). Interestingly, various studies have found that additional training and education on menopause for both men and women can improve coping during menopause and marital satisfaction, and reduce women’s symptom severity, too (Hashemian et al., 2020; Parish et al., 2019; Parsa et al., 2017; Rouhbakhsh et al., 2018; Yarelahi et al., 2021; Yoshany et al., 2017). Therefore, it is crucial to challenge negative menopausal attitudes of all people and promote a realistic picture of it through educational efforts. Still, it is noteworthy that these educational

efforts seem particularly urgent for men, as men receive even less knowledge about menopause (Yarelahi et al., 2021). Importantly, providing men with knowledge on menopause can improve the level of support they give to menopausal women, which can improve women's menopausal experience respectively (Zhang et al., 2020).

Impact of Sexism and Age on Menopausal Attitude

Our study revealed that men endorsed more sexism than women which is in line with previous research. According to previous studies, men endorse more sexism than women, and this observation was found to be stable across nations (Barreto & Doyle, 2023; Glick & Fiske, 1996; Glick et al., 2000; Roets et al., 2012). As an explanation for this gender difference, research suggests that men endorse more sexism as it serves as a plausible mean to justify and enhance male privilege in society, i.e. advantages in politics, society, and the workplace based entirely on the male sex (Barreto & Doyle, 2023; Wenzel, 2019). Interestingly, our study showed that people's level of sexism did not influence their menopausal attitude and did not influence men and women's menopausal attitude differently. This finding adds a novel insight to existing research and suggests that people's menopausal attitude may be influenced by factors that go beyond sexism, for instance people's age.

Indeed, our study found age to being an influential factor as older people in general held a more positive menopausal attitude than younger people. Still, men and women's menopausal attitude was not influenced differently by their age. This suggests that as both men and women age, their menopausal attitude improves similarly. Previous research indicates that older women, particularly those who already experienced menopause, exhibit a more positive menopausal attitude as their menopausal experience has made them become less susceptible to false stereotypes and find it therefore less burdensome (Huffman et al., 2005; Jassim & Al-Shboul, 2008; Thapa & Yang, 2022). Our research adds that age also plays a role in shaping men's menopausal attitude, with men exhibiting a more positive menopausal attitude as they age. Underlying causes of this demand further research, but it is possible that

older men may be more likely to be in contact with menopausal women (e.g., their spouse) and thereby get a more realistic picture of it, which may improve their menopausal attitude, respectively. Indeed, previous research has found that both menopausal women and their spouses exhibit on average positive attitudes toward menopause (Aksu et al., 2011), however, whether the similar positive attitude of the male spouse resulted from the contact with a menopausal woman still requires further research.

In our study, we initially treated age as a linear variable. However, we wish to emphasise that the relationship between age and menopausal attitude may not be strictly linear. Specifically, it might be possible that a menopausal attitude peaks at certain ages of men and women, rather than improving consistently over their lifetime. For women, the most significant improvement in their menopausal attitude is likely to occur during their menopausal years themselves, rather than gradually over time. This is something previous research has found; Ayers et al., (2010) suggest that as women experience menopause, their attitude becomes less negative toward it. Similarly for men, their menopausal attitude may also markedly improve at the time when they are in close contact to women undergoing menopause, rather than improving linearly with their age. Still, this demands further research.

Limitations and Future Recommendations

A notable strength of this study was the administration of the questionnaire in three different languages. By offering the survey in multiple languages, participants who are not proficient in the study's primary language could still participate by choosing their preferred language. Hence, this design choice was implemented to mitigate potential comprehension challenges stemming from language barriers and enhance the inclusivity of the data collected across different linguistic backgrounds.

The primary limitation of this study that should be considered when interpreting the findings is its disproportionate gender distribution within the sample. The vast majority of participants identified as female, and only a small percentage identified as male, i.e. 10%.

Given that this study focused on exploring gender differences in menopausal attitudes, this skewed gender distribution might have profoundly compromised the validity of our findings. Consequently, the male menopausal attitude potentially was not properly and comprehensively captured within our sample. Therefore, we strongly recommend that future studies on gender differences in menopausal attitudes should actively seek equitable representations from both male and female participants to ensure a more comprehensive understanding of possible gender differences and to enhance inclusivity and accuracy of research findings.

Next, the ATM scale in our study exhibited a questionable Cronbach's alpha, suggesting that its items had questionable internal consistency and may have measured the participants' menopausal attitude improperly. In previous studies, the Cronbach's alpha was .84 for Iranian women (Ghazanfarpour et al., 2015), .80 for Cambodian women (Thapa & Yang, 2022), and, similar to our findings, .64 in a study including American women (Huffman et al., 2005). From this discrepancy in alpha values, it becomes apparent that the ATM scale exhibits an inconsistency in internal reliability across different populations, which may be due to different culture and societal norms.²

Our observed questionable Cronbach's alpha may have been influenced by various factors. Firstly, the ATM scale was established in 1963 which raises concerns about its applicability to contemporary menopausal attitudes which may have changed over the decades. Secondly, the peculiar coding of certain items might have compromised the scale's reliability. For instance, agreeing with the third item, which suggests that women have the desire for extramarital affairs during menopause, was considered indicative of a positive menopausal attitude. This unconventional coding might have led to confusion among

² Indeed, the menopause is viewed differently across cultures. In Asian cultures, the menopause is viewed as a natural change of life and symbolises freedom and higher social status (Fu et al., 2003; Hickey et al., 2022). In Western countries, the menopause tends to be medicalised and associated with decline and loss (Hickey et al., 2022; Namazi et al., 2019).

participants and affected their responses, subsequently impacting the scale's reliability. Lastly, our research included men, unlike previous studies which predominantly focused on women only (e.g., Ghazanfarpour et al., 2015; Huffman et al., 2005; Thapa & Yang, 2022). Our inclusion of both men and women may have contributed to additional variability in responses. Given these considerations, future research should focus on developing and validating an updated version of the ATM scale. A revised scale should consider item clarity and appropriateness of coding, to accurately capture menopausal attitudes within the contemporary context as well as across genders.

Furthermore, this study exhibited a sampling bias as participants were primarily Dutch and German and most of them reported a university degree as their highest educational background. As a result, the findings may have limited generalizability to other nationality groups as well as other cultural and educational backgrounds. Importantly, Nielsen et al. (2017) emphasise that most scientific research includes data from western, educated, industrialised, rich, and democratic populations. This results in culturally specific findings that are misattributed as universal traits. As cultural variation is considered an important aspect of human cognition, more diverse samples are required in future research on people's attitude toward menopause (Nielsen et al., 2017). Also, studies have shown that menopause is experienced and perceived differently across cultures and ethnic backgrounds (Fu et al., 2003; Lock, 2002; Melby et al., 2005, Namazi et al., 2019; Obermeyer, 2000; Robinson, 1996; Sommer et al., 1999). Consequently, when interpreting our findings, it should be kept in mind that they may not capture the attitudes of all members of society.

Moreover, our study's recruitment design may have limited the participation in our survey. Notably, out of 533 initial participants who signed-up for the study, 266 were excluded due to non-completion. This drop-out rate could be attributed to the one week delay between study sign-up and receiving the main survey, potentially leading participants to forget about the study. Moreover, it could also be attributed to the lack of reminders, as

participants received only one invitation to the survey and were not reminded to participate afterwards. Future studies could improve completion rates by providing the survey right after the sign up, or at least provide frequent reminders for participation.

Lastly, given that the topic of menopause is stigmatised in society, participants may have been more likely to respond in a socially desirable manner. Krumpal (2013) emphasises that when questioned about sensitive or stigmatised topics in surveys, people tend to overreport socially desirable and underreport socially undesirable characteristics. This is a phenomenon known as the social desirability bias which may have contributed to an overestimation of the menopausal attitude responses, and an underestimation of the sexism responses in the current study. Future research may address this limitation by employing indirect questioning, a technique that aims to mitigate the influence of social desirability (Fisher, 1993). Indirect questioning invites participants to respond from the perspective of another individual or group, allowing them to reveal their own beliefs in a more distant way, i.e. hidden by some degree of impersonality. Future studies on menopause should consider such indirect techniques, as they have the potential to reduce the impact of social desirability in participant responses when studying topics that are stigmatised in society.

Conclusion

This study compared men and women's menopausal attitude and the influence of endorsed sexism and age on this attitude. Contrary to our expectations, men and women did not differ in their menopausal attitude. Despite men endorsing more sexism in general, sexism did not impact people's menopausal attitude, and did not influence men and women's attitude differently. Age impacted people's menopausal attitude in general, with older people endorsing a more positive attitude than their younger counterparts. Still, there was no difference between men and women in this regard. While this study added the novel insight that men's menopausal attitude is comparable to women's menopausal attitude, and that their attitude improves similarly as they age, limitations such as a skewed gender distribution and a

biased sample emphasised the need for more inclusive and diverse research on this topic. We strongly suggest that educational efforts should be made on promoting a realistic picture of menopause for all members of society, as negative menopausal attitudes still exist among both men and women, both having the potential to negatively impact women's menopausal experience. De-stigmatising the topic of menopause by openly addressing it in society is crucial and can benefit menopausal women as well as society as a whole.

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Appendix A

Recruitment Message

Oproep: Deelname aan eenjarig onderzoek naar positief mentaal welbevinden

In januari 2024 starten we vanuit het consortium *SPICE-up your life* met een eenjarig onderzoek naar het positief mentaal welbevinden van vrouwen en mannen van 18 jaar en ouder. In het onderzoek wordt gekeken naar hoe je kunt floreren ondanks (of dankzij) de kleine en grote uitdagingen die je tegenkomt in je leven. Hoe reageren verschillende mensen op vergelijkbare uitdagingen? Welke verwachtingen hebben we over bepaalde gebeurtenissen zoals het ouderschap en de menopauze? En wat maakt dat de een zich mentaal en fysiek veerkrachtiger voelt dan de ander? Het onderzoek bestaat uit het invullen van vier vragenlijsten gedurende een jaar. Wil jij een bijdrage leveren aan dit vernieuwende onderzoek? [Meld je dan hier aan!](#)

Request: Participation in a one-year study into positive mental well-being

In January 2024, the *SPICE-up your life* consortium will start a one-year study into the positive mental well-being of women and men aged 18 years and older. The research examines how you can flourish despite (or thanks to) the small and large challenges you encounter in your life. How do different people respond to similar challenges? What expectations do we have about certain events such as parenthood and menopause? And what makes one person feel more mentally and physically resilient than another? The research consists of completing four questionnaires over a period of one year. Would you like to contribute to this innovative research? [Then register here!](#)