The Moderating Factor of Internalised Sexism on the Relationship between Attitude towards Menopause and Menopausal Symptoms

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M12 BSc Thesis PSY (2023-2A)

Bachelor Thesis PCPT

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03.07.2024

Abstract

Objective: The symptoms women experience during menopause can stand in relation to the attitude they hold about menopause, with worsening symptoms being associated with more negative attitudes. On the other hand, internalised sexism has been shown to be related to worse opinions of menstruation, and worse experience of symptoms such as PMS. Therefore, the objective of this study is to evaluate whether sexist attitudes of women moderate the relationship between menopausal symptoms and attitudes towards menopause. Age and menopausal status are also proposed to play a moderating role.

Methods: An online qualitative survey was filled in by 221 women aged between 18 and 78 (M = 46.33, SD = 16.39), 69.2% of the women (n = 153) did not think they were currently in menopause, 22.6% (n = 50) thought they were in menopause, and 8.1% (n = 18) were not sure. The Menopause Rating Scale (MRS) was used to assess menopausal symptoms, the Attitude Towards Menopause (ATM) Scale to assess menopausal attitudes, and the Neosexism Scale (NSS) to assess the sexist attitudes. Three simple moderator analysis and a backwards stepwise linear regression analysis were performed.

Results: Menopausal symptoms and attitudes towards menopause were significantly negatively related to each other (b = -0.23, 95% CI [-0.35, -0.10]). None of the proposed variables, sexism, age, or menopausal status, showed a moderating effect. The backwards stepwise linear regression identified the variables menopausal symptoms (b = -0.19, p = .003), age (b = 0.12, $p < .001$), and sexism (b = -0.15, p = .016) as significant predictors for attitudes towards menopause. The model accounted for 13.2% of the variance ($Adjusted\ R^2 = 0.132$, $F(3, 217) = 11.03$, $p < .001$).

Conclusion: Even though there is no significant moderating effect for sexism, it still seems to be a relevant predictor for menopausal attitude. As age and menopausal symptoms were relevant alongside, the interaction should be further considered. Future research should further investigate the nature of the relationship between sexism and menopausal attitudes, also considering other variables, such as nationality, education, and possibly sexual orientation/queer identity.

Keywords: Menopausal attitude, menopausal symptoms, internalised sexism, moderation

Introduction

Going through menopause is natural for most women when they are ageing. The World Health Organization (WHO) defines menopause as the end of a woman's reproductive years, after which she can no longer get pregnant and ceases to menstruate (World Health Organization, 2022). It naturally occurs between the ages of 45 and 55, though women may experience menopausal symptoms already one to two years before the last menstrual cycle, which is called the peri-menopause (Gatenby & Simpson, 2024; World Health Organization, 2022). A woman can be diagnosed as menopausal if her menstrual cycle has ceased for 12 conceptual months, followed by the post-menopausal state: the 12 months after the initial menopause (Gatenby & Simpson, 2024). During the menopause, women might experience physical as well as mental problems.

Around 80-90% of women will experience at least some menopausal symptoms, and of those up to 25% report these as debilitating to an extend that affects their everyday life (Gatenby & Simpson, 2024). Common symptoms described are hot flushes, with around 85% of women reporting these, and night sweats, which can lead to insomnia, reported by around 50% (Gatenby & Simpson, 2024; Santoro et al., 2015). Other symptoms include reduced libido, migraines/headaches and 27-60% will experience moderate to severe vaginal dryness (Gatenby & Simpson, 2024; Santoro et al., 2015). Also often reported is “brain fog”, meaning memory problems and issues concentrating, low mood, and women becoming more vulnerable to anxiety and 2 to 4 times more likely to develop depression (Alblooshi et al., 2023; Gatenby & Simpson, 2024; Santoro et al., 2015).

An associated factor in the experience of these symptoms is the attitude of women towards menopause. Negative attitudes towards menopause seem to be correlated with a more severe experience of physical and psychological symptoms (Ayers et al., 2010; Yanikkerem et al., 2012). For example, a study by Ghazanfarpour et al. (2015) found that the symptoms most commonly related to negative attitudes were hot flashes and memory loss. Similarly, a study

by Olofsson and Collins (2000) showed that negative attitudes were associated with a more negative mood, memory problems, joint pain, and vaginal dryness. On the other hand, women who hold more positive attitudes towards menopause have been shown to have fewer body issues and lower depression levels (Dashti, 2021; Erblin, 2018). It is important to note that little is known about the causation between the two variables. In their literature review, Ayers et al. (2010) only found one prospective study that suggested that more negative attitudes cause more symptoms. Therefore, the possible direction of this relationship is still largely unknown. Understanding how attitudes are related to the experience of menopause is important to be able to provide more accurate healthcare during this transitional phase (Erblin, 2018; Yanikkerem et al., 2012). Therefore, examining the possible moderating variables on the relationship between women's attitudes towards menopause and their symptoms can help improve the care for both their physical and psychological struggles and to improve their overall well-being during that time.

One factor that might influence how women perceive menopause is the sexist stigmatisation of it. Interestingly, most of the focus has been on the sexist attitudes of men. A study by Christler et al. (2014) found that men perceived menopausal women as “bitter, tense, old, sensitive, and feminine”. This is in line with other research showing that hostile sexism (negative stereotypes) specifically makes menopausal women perceived as aggressive or unstable, while benevolent sexism (seemingly “positive” stereotypes) leads to viewing those women as ill and weak (Christler, 2012; Forbes et al., 2003). Those perceptions are further aided by the medicalisation of menopause, presenting it as a sort of decay that requires fixing via treatments (Christler, 2012; Hickey et al., 2022). Because menopause is also seen as a symptom of older age, women might experience a dual discrimination of ageism (discrimination based on age) and sexism (Christler, 2012; Targett & Beck, 2022). All of this might lead women to feel ashamed about their menopause. Such could cause malfunctioning in social relationships and well-being (Christler, 2012; Gatenby & Simpson, 2024), as well as

affecting their performance in the workplace (Atkinson et al., 2021; Targett & Beck, 2022). Overall, it becomes apparent that the stereotyped, sexist view of menopause widely affects women in many aspects of their personal, social, medical, and professional lives.

However, women can also hold sexist attitudes. This is understood as “internalised sexism” or also “internalised misogyny”, meaning internalised hatred of women, in which women act out sexist behaviour, devalue and distrust other women and value men as superior (Bearman et al., 2009; Constantinescu, 2021; Han et al., 2023). This can not only affect women's relationship with each other (Einhorn, 2021; Han et al., 2023), but also women’s relationship with themselves, causing self-related issues, such as self-alienation or disconnect from their real selves (Bozkur & Arıcı Şahin, 2022). Internalised sexism can affect menstrual and reproductive health. Both hostile and benevolent sexism are associated with a more negative attitude towards menstruation for women (Eyring et al., 2023; Forbes et al., 2003). Some view menstruating women as annoying, aggressive, and irritable, while others believe they are weak. Benevolent sexism also seems to be associated with denial of menstrual symptoms. Adding to this, a study by Erenoğlu et al., (2023) not only found that there is a relationship between premenstrual syndrome (PMS) and internalised misogyny but also that the severity of PMS can be increased by it. Examining these relationships between internalised sexism and menstrual attitudes and symptoms, it seems likely that sexist attitudes also play a role in menopausal attitudes and the experience of menopausal symptoms, however, this has not yet been studied. Therefore, this study aims to investigate this possible connection.

Other factors that need to be considered as moderating factors are age and menopausal status. A study among women aged 19 or older by Cate & Corbin (1992) found that older women have a more positive view on menopause. Likewise, postmenopausal women, who would be older, seem to have a more positive attitude towards menopause. A study by Dasgupta & Ray (2016), in which women between 40–55 years old participated, found that

perimenopausal women generally have more negative menopausal attitudes than postmenopausal women. It is suggested that the peri-menopause is the most difficult for women as it entails the most bodily changes, that the unfamiliarity causes anxiety, and that after the transition the attitudes become more positive (Ayers et al., 2010; Dasgupta & Ray, 2016). This attitude change is suggested to come from the lived experience, the realisation that it is not as difficult as thought, and the development of better coping mechanisms (Brown et al., 2018). A recent systematic review by Dashti et al. (2021) suggests that more positive attitudes towards menopause solely come from menopausal status instead of age. Summarising, both age and menopausal status could be associated with attitudes towards menopause, and it is important to distinguish them from each other, but also consider that they are related. Therefore, women from the age of 18 are included in this study to assess these differences.

This current study aims to examine whether there is a moderating effect of sexist attitudes of women on the relationship between their attitude towards menopause and their experience of menopausal symptoms. The following research questions are posed:

1. Do sexist attitudes of women moderate the negative relationship of menopausal attitude and menopausal symptoms?
2. Does the age of women moderate the negative relationship of menopausal attitude and menopausal symptoms?
3. Does menopausal status moderate the negative relationship of menopausal attitude and menopausal symptoms?

Based on the previously discussed literature, it is hypothesised that more sexist attitudes of women will strengthen the negative relationship between menopausal attitudes and menopausal symptoms. Further, it is also hypothesised that age and menopausal status will be significant moderators for the negative relationship between menopausal symptoms and menopausal attitudes, in the sense that being older and non-menopausal will have a reducing effect.

Method

Design

This study was part of a larger, longitudinal research, using a mixed method design to collect both quantitative and qualitative data to gain the most insight. The current study used a selection of measurement instruments, performing a cross-sectional analysis of this project. The ethics committee of the University of Twente, Faculty of Behavioural, Management, and Social Sciences (BMS) gave ethical approval for this study. The request number is 231487.

Participants

Overall, 638 participants completed the online survey. However, 42 people did not provide consent, therefore had to be removed. Considering the research question, only women were included, which led to 114 participants being removed, as they indicated another gender (male, non-binary, preferred not to say). Lastly, 261 participants did not fill in the relevant questionnaires and had to be excluded from the analysis. Therefore, 221 participants were left for this study.

The average age of participants was 46.33 (SD = 16.39), with a minimum age of 18 and a maximum of 78. The most frequent nationality was Dutch (52%, n = 115), followed by German (32.1%, n = 71) and Turkish (8.1%, n = 18). Most participants had either a Master in (applied) sciences or a PhD (32.6%, n = 72), a Bachelor in (applied) sciences (31.7%, n = 70), or a vocational secondary education (20.4%, n = 45). The most common marital status of participants was married or registered partnership (47.1%, n = 104), never been married (35.8%, n = 79), and lastly divorced/separated (13.6%, n = 30). The most frequent living situation was living with a partner (29.4%, n = 65), followed by living with a partner and children (25.8%, n = 57) and living alone (20.8%, n = 46). Lastly, the most frequent employment status was working part-time (34.4%, n = 76), working full-time (24.4%, n = 54),

or being a student (15.8%, $n = 35$). All socio-demographic data of the participants can be found in Table 1.

Table 1

Socio-demographic Data of Participating Women N = 221

Age, M (SD)	46.33	16.39
Highest Level of Education (n, %)		
Primary School	3	1.4
Secondary School	31	14
Vocational secondary education	45	20.4
Bachelor in (applied) sciences	70	31.7
Master in (applied) sciences, or PhD	72	32.6
Marital Status (n, %)		
Married or registered partnership	104	47.1
Divorced/separated	30	13.6
Widowed	8	3.6
Never been married	79	35.8
Current Living Situation (n, %)		
Living alone	46	20.8
Living with partner	65	29.4
Living with partner and children	57	25.8
Living with children	17	7.7
Living with my parent(s)	13	5.9
Living with others	21	9.5
Employment Status (n, %)		
Working full-time	54	24.4
Working part-time	76	34.4
Unemployed and looking for work	8	3.6
A homemaker or stay-at-home parent	11	5
Student	35	15.8
Retired	24	10.9
Other	13	5.9
Nationality (n, %)		
Dutch	115	52
German	71	32.1
Belgian	3	1.4
Turkish	18	8.1
Other	13	5.9

Note. Mean (M), Standard Deviation (SD), Frequencies (n) and percentages (%). Other nationalities indicated: Ukrainian, French, Finnish, Belarusian, German-Canadian, Dutch-Turkish, Swiss, Slovenian, Italian.

Procedure

Data was collected from January 2024 until the end of March 2024. An online survey, estimated to take around 30 to 45 minutes to complete, was designed using the platform Qualtrics (www.qualtrics.com) and made accessible via a link. Participants were recruited by contacting people who previously participated in other research and indicated they would be interested in taking part in other research, and by convenience sampling people from the social circles of the researchers. Further, the link for the study was also spread over social media, namely Instagram and Reddit. Lastly, snowball sampling was also used by asking the people contacted to also spread the link. Participants could choose to complete the survey in Dutch, English or German. Then, they were presented with the purpose of the study, ethical considerations and their rights as a participant so they could give informed consent. After providing informed consent, participants received a link to the full survey in their chosen language. After completion, they were thanked for their participation.

Measurements

Attitude Towards Menopause Scale

To measure the participant's attitude towards menopause, the Attitude Towards Menopause (ATM) scale by Neugarten et al. (1963), which consists of 35 items, such as “Women often get self-centred at the menopause.” or “Going through the menopause really does not change a woman in any important way.” Of the items, 16 are positive items and 19 are negative items. The participants rated these items on a 4-point Likert scale from 1 (*disagree strongly*) to 4 (*agree strongly*). The scores for the negative items are scored inversed, therefore, a higher summed score (35 - 140) indicates a more positive attitude towards menopause. Other studies have found the internal reliability of the ATM scale to be high, even in other languages and non-western countries (Bahri et al, 2023; Thapa & Yang, 2022). Further, the construct was also reported to be good, as well as the convergent and the

discriminant validity (Bahri et al, 2023). This current study found a Cronbach alpha of .85, which indicates high internal reliability.

Menopause Rating Scale

To assess the menopausal symptoms of the participants, the Menopause Rating Scale (MRS) was used, which was developed as a self-assessment tool (Hauser et al., 1994; Schneider et al., 2000). It consists of 11 items about common menopausal symptoms, such as "Hot flushes, sweating (episodes of sweating)" and "Sexual problems (change in sexual desire, in sexual activity and satisfaction". Participants could rate these symptoms on a 5-point scale, ranging from 0 (*none*) to 4 (*very severe*). The answers are added up to a final score, therefore a higher sum score indicates a higher number of symptoms, ranging from 0 (asymptomatic) to 44 (severe symptoms). The test was found to have sufficient test-retest reliability (Schneider et al., 2000), which was confirmed over multiple languages and cultures (Heinemann et al., 2003), as well as good validity (Heinemann et al., 2004). The current study found a Cronbach alpha of .84, therefore, showing high internal reliability.

Neosexism Scale

The Neosexism Scale (NSS) by Tougas et al. (1995) is made to measure modern sexism in both men and women. It consists of 11 items, including statements such as "Women shouldn't push themselves where they are not wanted." (Item 3) or "In order not to appear sexist, many men are inclined to overcompensate women." (Item 9). The items could be rated on a 7-point Likert scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The higher the summarized score is, the more sexist they are considered to be. In the original study, the scale was found to have good internal reliability (Tougas et al., 1995). This has been confirmed by other studies, including translations into other languages (Gonçalves et al., 2015; Martínez et al., 2010). In this current study, a Cronbach alpha of .78 is found, which is considered good.

Menopausal Status

Menopausal status was assessed using a single item. Participants were asked if they believe they are currently undergoing menopause and could answer either yes, no, or that they were unsure.

Analysis

To analyse the data, the software program RStudio, Version 4.3.3., was used. For the analysis, the following packages were used: tidyverse (v2.0.0, Wickham et al., 2019), haven (v2.5.4, Wickham et al., 2023), car (v3.1.2, Fox & Weisberg, 2019), stats (v4.3.3, R Core Team, 2024), and psych (v2.4.3, Revelle, 2024). The dataset used was stored as .sav data. To determine if a parametric test was appropriate, the parametric assumptions of homogeneity of variance, linearity, multicollinearity, and normality were checked via plots. As a parametric test was appropriate (Appendix 1), Pearson's correlation was used to check the relationship between the variables of interest. A simple linear model was made to check whether there was a relationship between menopausal symptoms and menopausal attitude in the data. Next, a multivariable regression model with interaction terms was performed, as well as an estimate of the simple slope estimates for the interaction effects. Attitudes towards menopause was the dependent variable, menopausal symptoms and sexism was the independent, and the interaction was between attitudes and sexism. To visualise this relationship, an interaction plot was created. This was repeated twice, once using age instead of sexism and once using menopausal status. Afterwards, a backwards stepwise linear regression was done post-hoc to evaluate if sexism could be a significant predictor for menopausal attitude considering other variables. Variables were removed if they had a non-significant p-value above .05, and the change in explained variance by the model was evaluated via R^2-values.

Results

Overall, participants scored a mean of 109.3 ($SD = 7.76$) on the ATM scale, indicating that they usually held a quite positive attitude towards menopause. On the MRS, participants on average had a score of 22.3 ($SD = 7.76$), meaning that they usually had average menopausal symptoms. Lastly, on the NSS, the mean score was 23.7 ($SD = 7.76$), showing that overall participants had few sexist attitudes. With regards to their menopausal status, most women (69.2%, $n = 153$) indicated that they do not think they are currently in menopause, followed by women who do think they are currently in menopause (22.6%, $n = 50$), and women who stated that they don't know (8.1%, $n = 18$).

Based on the parametric assumptions of homogeneity of variance, linearity, multicollinearity, and normality, it was decided that a parametric test was appropriate (Appendix 1). A Pearson correlation showed a significant negative correlation between the two variables attitude towards menopause and menopausal symptoms (r (219) = -0.23, $p < .001$). Further, there also was a significant negative correlation found between sexism and attitude towards menopause (r (219) = -0.14, $p = .036$), as well as a positive correlation between age and attitudes towards menopause (r (219) = 0.26, $p < .001$). The full results can be seen in table 2.

Table 2

Pearson Correlation Table

Variable	M	SD	1	2	3
1. Attitude towards Menopause	109.35	7.87	-		
2. Menopausal Symptoms	22.30	7.76	-.23**	-	
3. Sexism	23.69	8.26	-.14*	.09	-
4. Age	46.33	16.39	.26**	-.10	.12

Note. * $p < .05$ ** $p < .01$

Simple Linear Model

To establish the relationship between menopausal symptoms and attitude towards menopause, a simple linear model was performed. The model showed a significant negative relationship between scores on attitudes towards menopause and scores regarding menopausal symptoms (b = -0.23, t = -3.51, p < .001) (Table 3). The slope indicates that for every one-unit increase in the total score on the ATM scale, the total score on the MRS is expected to decrease by 0.23 units. The model explained 5.3% of the variance in the scores ($R^2 = 0.053$).

Table 3

Simple Linear Regression model for Scores of ATM Predicting Scores of MRS

			95% CI			
Variable	Estimate	SE	LL	UL	t	p
Intercept	47.15	7.11	33.13	61.17	6.63	< .001
Attitude	-0.23	0.06	-0.35	-0.10	-3.51	< .001

Note. CI = confidence interval, LL = lower limit, UL = upper limit

Moderator analyses

Sexism

The results of the moderation analysis showed that there was a significant effect between attitude towards menopause and menopausal symptoms (b = -0.46, t = -2.45, p = .015) The effect of sexism approached significance (b = -0.34, t = -1.92, p = .056), suggesting that lower scores on the ATM might be related to higher scores on the NSS. However, the interaction between all three variables showed no significance (b = 0.01, t = 1.36, p = .177), suggesting no moderation effect (Table 4). A visualisation can be found in appendix 2.

Table 4

Moderation Estimates of the Moderation Analysis of Sexism on the Relationship Between Menopausal Symptoms and Attitude toward Menopause

			95% CI			
Effect	Estimate	SE	LL	UL	t	p
Intercept	122.49	4.51	113.59	131.38	21.16	< .001
Attitude	-0.46	0.19	-0.84	-0.01	-2.45	.015
Sexism	-0.34	0.18	-0.69	0.01	-1.92	.056
Attitude*Sexism	0.01	0.01	-0.01	0.02	1.36	.177

Note. CI = confidence interval, LL = lower limit, UL = upper limit

Age

The results suggest no significant effects between attitude towards menopause and menopausal symptoms (b = 0.08, t = 0.44, p = .661). However, age was a significant predictor (b = 0.26, t = 2.88, p = .004). Lastly, the interaction of ATM scores, NSS scores, and age was not statistically significant (b = -0.01, t = -1.71, p = .089), suggesting no moderating effect. A visualisation can be found in appendix 3.

Table 5

Moderation Estimates of the Moderation Analysis of Age on the Relationship Between Menopausal Symptoms and Attitude toward Menopause

			95% CI			
Effect	Estimate	SE	LL	UL	t	p
Intercept	102.40	4.30	93.94	110.86	23.81	< .001
Attitude	0.08	0.18	-0.28	0.44	0.44	.661
Age	0.26	0.09	0.08	0.43	2.88	.004
Attitude*Age	-0.01	0.01	-0.01	0.00	-1.71	.089

Note. CI = confidence interval, LL = lower limit, UL = upper limit

Menopausal Status

Lastly, the effect between attitude towards menopause and menopausal symptoms here was not significant (b = -0.18, t = -1.18, p = .241). The effect of menopausal status was also not significant for either category (no (b =1.22, t = 0.27, p = .786) or maybe (b = 5.06, t = 0.61, p = .541) compared to the reference category (yes). The interaction terms were also not significant, neither for no (b = -0.08, t = -0.46, p = .647), nor for maybe (b = -0.22, t = -0.65, p = .517). A visualisation can be found in appendix 4.

Table 6

Moderation Estimates of the Moderation Analysis of Menopausal Status on the Relationship Between Menopausal Symptoms and Attitude toward Menopause

			95% CI			
Effect	Estimate	SE	LL	UL	t	p
Intercept	113.59	4.09	105.53	121.64	27.80	<.001
Attitude	-0.18	0.15	-0.47	0.12	-1.18	.241
Status/No	1.22	4.48	-7.59	10.03	0.27	.786
Status/Maybe	5.06	8.26	-11.24	21.35	0.61	.541
Attitude*Status/No	-0.08	0.17	-0.42	0.26	-0.46	.647
Attitude*Status/Maybe	-0.22	0.34	-0.89	0.45	-0.65	.517

Note. Menopausal status reference category is “1”, indicating the answer yes. CI = confidence interval, LL = lower limit, UL = upper limit.

Stepwise Linear Regression Model

Since no moderating effect of sexism was found but the Pearson correlation indicated a relationship between sexist attitudes and attitudes towards menopause, a backwards linear regression analysis was conducted. This was done to evaluate if the relevance persevered if further variables were added. In each step the variables with the highest p-value were removed until all remaining predictors were statistically significant. In three steps, menopausal status, nationality, and education were removed. This left a final model including menopausal symptoms (b = -0.19, t = -2.97, p = .003), age (b = 0.12, t = 4.02, p < .001), and sexism (b = -0.15, t = -2.43, p = .016) as significant predictors of ATM scores, accounting for 13.2% of the variance (*Adjusted* R^2 = 0.132, $F(3, 217)$ = 11.03, p < .001). Menopausal symptoms were a significant negative predictor for attitudes towards menopause. For each increase in MRS scores, the ATM score is expected to decrease by 0.19, holding other variables constant. This suggests that higher scores for menopausal symptoms are associated with more negative attitudes towards menopause. Each additional year of age on the other hand is expected to increase the ATM scores by 0.12, therefore, older age is connected to more positive menopausal attitudes. Lastly, for each unit increase of sexism, attitudes toward menopause scores are expected to decrease by 0.15, indicating higher scores on sexism to be associated with less positive attitudes towards menopause. Full results can be seen in table 7.

Table 7

Backwards Stepwise Regression Analysis

Model	Estimate	SE	95% CI LL	95% CI UL	t	p
Step 1 ($R^2 = 0.159$)						
Symptoms	-0.17	0.07	-0.31	-0.04	-2.58	.011*
Age	0.16	0.04	0.09	0.24	4.63	<.001**
Status/No	0.39	1.30	-2.18	2.95	0.30	.767
Status/Maybe	0.56	2.03	-3.43	4.56	0.28	.781
Sexism	-0.21	0.06	-0.34	-0.08	-3.21	.002**
Education	-0.90	0.53	-1.94	0.14	-1.69	.092
Nationality	0.13	0.40	-0.66	0.93	0.33	.744
Step 2 ($R^2 = 0.158$)						
Symptoms	-0.18	0.06	-0.31	-0.06	-2.82	.005**
Age	0.16	0.03	0.09	0.23	4.72	< .001**
Sexism	-0.21	0.06	-0.33	-0.08	-3.24	.001**
Education	-0.90	0.52	-1.93	0.14	-1.72	.086
Nationality	0.14	0.40	-0.65	0.92	0.34	.736
Step 3 ($R^2 = 0.145$)						
Symptoms	-0.20	0.06	-0.32	-0.07	-3.03	.003**
Age	0.15	0.03	0.08	0.21	4.41	<.001**
Sexism	-0.18	0.06	-0.31	-0.06	-2.87	.005**
Education	-0.91	0.51	-1.92	0.10	-1.77	.079
Step 4 ($R^2 = 0.132$)						
Symptoms	-0.19	0.06	-0.32	-0.06	-2.97	.003**
Age	0.12	0.03	0.06	0.18	4.02	< .001**
Sexism	-0.15	0.06	-0.27	-0.03	-2.43	.016*

Note. Menopausal status reference category is “1”, indicating the answer yes. * $p < .05$ ** $p < .01$. CI = confidence interval, LL = lower limit, UL = upper limit.

Discussion

This study was done to evaluate the moderating role of internalised sexism of women on the relationship between menopausal symptoms and attitude towards menopause, as well as the influence of age and menopausal status. Like in previous studies (Ayers et al., 2010; Dashti, 2021; Erblin, 2018; Ghazanfarpour et al., 2015; Olofsson and Collins, 2000; Yanikkerem et al., 2012), this study found more positive menopausal attitudes to be associated with reporting less severe menopausal symptoms. It was hypothesised that internalised sexism, age, and menopausal status would be moderating factors on this relationship. However, all three proposed hypotheses had to be rejected. Nevertheless, age and sexism were instead found to be directly associated with attitudes towards menopause.

Previous studies showed that sexist attitudes correlate with attitude towards other aspects of reproductive and menstrual health (Eyring et al., 2023, Forbes et al., 2003), as well as worsening symptoms of menstrual issues (Erenoğlu et al., 2023). The results of the stepwise linear regression analysis still suggest that sexist attitudes in women seem to be significantly related to their attitude towards menopause. These correlational results are a valuable insight and suggest a need for further exploration of this relationship in future research. Including sexism helps more thoroughly understand the influences on menopausal attitudes, and, in turn, the experience of menopausal symptoms. The causality between menopausal attitudes and menopausal symptom is not clear yet, as stated before, only one study suggested that the direction is that more negative attitudes cause more symptoms (Ayers et al., 2010). It might be interesting to evaluate whether there is a mediating relationship. Menopausal women are often negatively described as "old" (Christler et al., 2014), and it is often reasoned that pre-menopausal women have a more negative attitude because they fear aging (Dashti et al., 2021). Thus, internalised sexist attitudes such as the fear of aging, might lead to negative attitudes towards menopause, which then increase symptoms. This would implicate that getting to have a better menopausal experience is rooted in more complex

societal issue than viewing just the menopause in a positive light. It must be noted that there generally is very little research about attitudes towards menopause and its possible association or causations with symptoms or sexism currently available. Investing in this research to expand the theoretical framework of menopause might help individuals confront their bias about menopause to possibly have a better experience with it and develop a more accepting society for menopausal individuals.

While age was not a moderator, it was also found to be a relevant predictor alongside sexism and menopausal symptoms. This relevance as a predictor is in line with previous studies (Cate & Corbin, 1992). The lack of moderation might be because women go through menopause during a wide variety of ages (usually aged 45-55; World Health Organization, 2022). Therefore, age might not be reliable associated with menopausal symptoms. However, the implication that aging changes something about the dynamic between menopausal attitudes and menopausal symptoms is still relevant. It might be interesting to further evaluate the interaction effect with sexism, as it appears that especially young women increasingly identify themselves as feminists (Elder et al., 2021; Fitzpatrick Bettencourt et al., 2011). Therefore, it could be that young women hold fewer sexist beliefs than older women. At the same time, it is suggested that the younger a woman is, the more negative her attitudes towards menopause will be (Cate & Corbin, 1992). Therefore, age and sexism might be counteracting or balancing each other regarding their influence on menopausal attitudes. Considering all of this would be interesting to assess in what regard younger and older women need to be approached differently about the topic of menopause.

Against expectations, menopausal status was not found to be a moderator and was not relevant in the stepwise linear regression analysis. Previous research has indicated that post-menopausal women usually hold a more positive attitude than peri- or pre-menopausal women (Ayers et al., 2010; Dasgupta & Ray, 2016), because of their experience with the symptoms and development of coping mechanisms (Brown et al., 2018). It is reasoned that

peri-menopausal women experience the most symptoms and anxiety about the changes, which is why their attitudes are more negative (Ayers et al., 2010; Dasgupta & Ray, 2016). A reason why it was not found to be a moderator or otherwise associated here might be that it falls flat against the relevance of menopausal symptoms. A study by Vanwesenbeeck et al., (2001) has found that menopausal symptoms, especially somatic and mental symptoms, are more closely tied to personality and psychological factors than to menopausal status. Negative attitudes towards menopause might be such as psychological factor that is more relevant to the experience of the symptoms. This means that the experience of menopausal symptoms can be explained by a variety of causes unrelated to the menopausal status. Further, this study also did not ask the participants whether they possibly had other illnesses in which they experienced similar symptoms to the menopausal symptoms. Therefore, menopausal attitudes and symptoms could correlate to each other, regardless of actual menopausal status. This would clarify why the stepwise linear regression showed menopausal symptoms to be associated, while menopausal status was not.

However, it must be considered how menopausal status was measured here. There was no differentiation between pre- and post-menopausal women, only whether the women were currently menopausal or not, which might have distorted the results. As stated, usually the post-menopausal women are the ones holding more positive attitudes (Ayers et al., 2010; Dasgupta & Ray, 2016), therefore, they would differ from pre-menopausal women and should be investigated separately. Further, a self-report measurement was used, meaning that it is possible some were mistaken over whether they are currently in menopause. A tool that might be more reliable and feasible for future research could be the use of questionnaires about the bleeding patterns and cycle changes of the participant (Gracia et al., 2005). This would allow the results to be more extensive and reliable. More research is needed to conclusively state whether age or menopausal status, or both, are the relevant variables. Therefore, the proposed model from the stepwise linear regression analysis is by no means to be taken to be extensive

or rigid. Other variables, such as menopausal status, might still be relevant, which could change the relevance of and interaction between the three proposed variables. Attitude towards menopause is a construct that is influenced by multiple factors, and internalised sexism is as well. The investigation of their relationship, as well as the separate influences, therefore, presents itself to be complicated.

Strengths and Limitations

One of the strengths of this study is that it focuses on a research field that has not been widely explored yet. Research about menopause is still rather spotty, and this study aims to further fuel the exploration of this topic. Furthermore, the gathered sample was diverse in terms of age, material status, current living situation, and employment status, which allows the possibility of generalization of these findings. The questionnaires used were extensive, pre-existing measures. This gave the possibility to gain a broad overview of the sample characteristics and also ensured a certain quality of the instruments. Lastly, the scales also showed a high level of internal consistency within the study, evident in the Cronbach alpha. Therefore, the conclusions drawn from the variables are likely to reflect actual dynamics.

However, the limitations of this study also need to be acknowledged. Firstly, there is a possibility of selection bias within the sample. For one, the sample was partly recruited from people who had in previous studies had indicated that they would be interested to be recruited for further studies. Secondly, the sample was also recruited by convenience in the social circles of the researchers involved. Both techniques might lead to motivational bias. Furthermore, the people approached by the researcher might also skew the sample in a certain direction, as all researchers were university students and either Dutch or German, which their social circle reflected. Consequently, the sample itself was mostly made up of Dutch and German individuals and overall had a very high level of education, with circa 64.3% of participants having acquired a bachelor's degree or higher. These biases limit the generalisability of the findings, making the drawn conclusion less reliable.

When looking at the sample, it also needs to be discussed that 69.2% of the participants indicated that they did not think they were currently in menopause. Even thought there was no differentiation between pre- and post-menopause, this still means that results could differ for currently menopausal women. Therefore, this also impacts the generalisability of the conclusion drawn by this study.

A second limitation is the use of the Neosexism scale. This scale was not developed to measure the specific construct of internalised sexism, only general sexism. Internalised sexism can show itself in different ways, which means that participants might hold internalised sexism, but it will not be noticeable in their Neosexism scores. A possible scale that has been shown to be reliable in its measurement is the internalized misogyny scale developed by Piggott (Erenoğlu et al., 2023; Han et al., 2023). Therefore, it is recommended that further research should be conducted, examining the proposed relationship between menopausal attitudes and internalised sexism using a scale that is better suited to measure this construct, as it might yield different results.

Implications

To provide more accurate healthcare, it is crucial to understand the influences of attitudes towards menopause on the menopausal experience (Erblin, 2018; Yanikkerem et al., 2012). Insight into how internalised sexism plays a role could help improve how healthcare practitioners approach conversations about menopause. It shows that perhaps the conversation that needs to happen is not just about being compassionate with oneself regarding the menopause, but that the underlying issue causing the negative attitudes might run deeper. It shows that a more comprehensive understanding of how society devalues women, and their experience is needed. This understanding needs to happen for change to be possible.

Additionally, longitudinal studies should be conducted to investigate the relationship between age, menopausal symptoms, internalised sexism and attitudes towards menopause further. That is, over a longer period of time, it would be interesting to see how the age of a

woman changes her sexist attitude and her attitude towards menopause, since the two supposedly move in opposite directions (menopausal attitudes getting more positive with age and sexism getting stronger with age). This might also give more clarity regarding the causality of the relationships, if women first develop the sexist attitudes, the negative menopausal attitudes, or experience menopausal symptoms. As this is an ongoing project, the development could already be examined in the next steps, but following women over the course of several years more might give an even clearer insight.

Lastly, there are several other variables that should be considered because they possibly influence both sexist attitudes and attitudes towards menopause. For one, there is nationality, which impacts what idea women hold of menopause (Fu et al., 2003). Western cultures, for example, tend to hold a more negative view of menopause (Ayers et al., 2010; Hickey et al., 2022; Namazi et al., 2019). At the same time, country of residence can also be a factor influencing the sexist believes of an individual (Prina & Schatz-Stevens, 2020). Secondly, education could also be considered. Higher education is related to more positive attitudes towards menopause (Ayers et al., 2010; Dashti et al., 2021; Gebretatyos et al., 2020). Education can change women's perspective on their menopausal symptoms, as well as make them more likely to seek medical support for them (Koyuncu et al., 2018; Namazi et al., 2019). At the same time, education also influences sexist attitudes, with higher education being associated with lower sexism (Prina & Schatz-Stevens, 2020). This shows that there are several variables that could have a significant influence on the relationship and might even have a confounding effect. This study had a very homogenous sample in these two aspects, so a repetition with a more diverse sample would be insightful.

Additionally, one more variable that should not be disregarded is the sexuality or queer identity of individuals. For one, non-heterosexual women report lower scores of internalised sexism than their heterosexual-identifying peers (Han et al., 2023). Moreover, sexual minority women also have been shown to show less concern about ageing and ceasing

to menstruate, worrying less about attractiveness and fertility (Kruk et al., 2021), which could be a relevant factor for menopausal attitudes. However, queer menopausal individuals also often feel poorly consulted by healthcare professional about their experience with menopause and due to this might miss out on treatment (Glyde, 2023). These points could both influence their menopausal attitudes as well as their symptoms. In short, queer identities could be a relevant factor when evaluating the connection between internalised sexism, menopausal attitude, and menopausal symptoms, and should be investigated in future research, for example in a study similar to this one but specifically targeting queer individuals as participants.

Conclusion

To conclude, this study gave insight into the relationship between sexist attitudes of women on their attitude towards menopause. That sexism, age, and menopausal status had a moderating effect on the relationship between menopausal attitudes and menopausal symptoms could not be supported. However, sexism and age, alongside menopausal symptoms, were found to be significant associated factors of attitudes towards menopause. It might be indicative of how negative attitudes towards menopause, and adjacent a more negative menopausal experience, are part of a bigger societal issue and that this should be acknowledged more thoroughly, generally as well as in research. It should be further researched how these variables interact, and how menopausal status might come into play. Other underlying factors should also be investigated.

References

Alblooshi, S., Taylor, M., & Gill, N. (2023). Does menopause elevate the risk for developing depression and anxiety? Results from a systematic review. *Australasian Psychiatry*, *31*(2), 165–173. https://doi.org/10.1177/10398562231165439

Atkinson, C., Beck, V., Brewis, J., Davies, A., & Duberley, J. (2021). Menopause and the workplace: New directions in HRM research and HR practice. *Human Resource Management Journal*, *31*(1), 49–64. https://doi.org/10.1111/1748-8583.12294

Ayers, B., Forshaw, M., & Hunter, M. S. (2010). The impact of attitudes towards the menopause on women's symptom experience: A systematic review. *Maturitas*, *65*(1), 28–36. https://doi.org/10.1016/j.maturitas.2009.10.016

Bahri, N., Sajjadi, M., Hunter, M. S., & Mohammadzadeh, F. (2023). Translation, cross-cultural adaptation, and validation of the Persian version of the Attitude Towards Menopause scale. *Menopause*, *30*(9), 933–939. https://doi.org/10.1097/GME.0000000000002221

Barth Olofsson, A. S., & Collins, A. (2000). Psychosocial factors, attitude to menopause and symptoms in Swedish perimenopausal women. *Climacteric*, *3*(1), 33–42. https://doi.org/10.3109/13697130009167597

Bearman, S., Korobov, N., & Thorne, A. (2009). THE FABRIC OF INTERNALIZED SEXISM. *Journal of Integrated Social Sciences Www.Jiss.Org*, *1*(1), 2009–2020. JISS_2009_1-1_10-47_Fabric_of_Internalized_Sexism.pdf

Bozkur, B., & Arıcı Şahin, F. (2022). Relationships among Traditional Gender Roles, Acceptance of External Influence and Self-Alienation: The Mediator Role of Internalized Sexism. *International Journal of Progressive Education*, *18*(4), 43–53. https://doi.org/10.29329/ijpe.2022.459.4

Brown, L., Brown, V., Judd, F., & Bryant, C. (2018). It's not as bad as you think: menopausal representations are more positive in postmenopausal women. *Journal of*

Psychosomatic Obstetrics & Gynecology, *39*(4), 281–288. https://doi.org/10.1080/0167482X.2017.1368486

Cate, M. A., & Corbin, D. E. (1992). Age Differences in Knowledge and Attitudes Toward Menopause. *Journal of Women & Aging*, *4*(2), 33–46. https://doi.org/10.1300/J074v04n02_04

Chrisler, J. C. (2013). Teaching Taboo Topics: Menstruation, Menopause, and the Psychology of Women. *Psychology of Women Quarterly*, *37*(1), 128–132. https://doi.org/10.1177/0361684312471326

Chrisler, J. C., Gorman, J. A., Marván, M. L., & Johnston-Robledo, I. (2014). Ambivalent Sexism and Attitudes Toward Women in Different Stages of Reproductive Life: A Semantic, Cross-Cultural Approach. *Health Care for Women International*, *35*(6), 634–657. https://doi.org/10.1080/07399332.2012.740113

Constantinescu, S.-A. (2021). How Does The Internalization Of Misogyny Operate: A Theoretical Approach With European Examples. *Research in Social Change*, *13*(1), 120–128. https://doi.org/10.2478/rsc-2021-0013

Dasgupta, D., & Ray, S. (2016). Is menopausal status related to women's attitudes toward menopause and aging? *Women & Health*, *57*(3), 311–328. https://doi.org/10.1080/03630242.2016.1160965

Dashti, S., Bahri, N., Fathi Najafi, T., Amiridelui, M., & Latifnejad Roudsari, R. (2021). Influencing factors on women's attitudes toward menopause: a systematic review. *Menopause*, *28*(10), 1192–1200. https://doi.org/10.1097/GME.0000000000001833

Einhorn, S. (2021). From a woman's point of view. How internalized misogyny affects relationships between women. *Group Analysis*, *54*(4), 481–498. https://doi.org/10.1177/05333164211038310

Elder, L., Greene, S., & Lizotte, M.-K. (2021). Feminist and Anti-Feminist Identification in the 21st Century United States. *Journal of Women, Politics & Policy*, *42*(3), 243–259. https://doi.org/10.1080/1554477X.2021.1929607

Erbil, N. (2018). Attitudes towards menopause and depression, body image of women during menopause. *Alexandria Journal of Medicine*, *54*(3), 241–246. https://doi.org/10.1016/j.ajme.2017.05.012

Erenoğlu, R., Sözbir, Ş. Y., & Erenel, A. Ş. (2023). Is there a relationship between internalized misogyny and premenstrual syndrome and dysmenorrhea in young women? A descriptive-relational study. *Journal of Obstetrics and Gynaecology Research*, *49*(8), 2157–2163. https://doi.org/10.1111/jog.15719

Eyring, J. B., Crandall, A., & Magnusson, B. M. (2023). A Modified Menstrual Attitudes Scale: Heteronormative Attitudes, Sexism, and Attitudes Toward Menstruation in Male and Female Adults. *Archives of Sexual Behavior*, *52*(4), 1535–1547. https://doi.org/10.1007/s10508-023-02565-y

Fitzpatrick Bettencourt, K. E., Vacha-Haase, T., & Byrne, Z. S. (2011). Older and Younger Adults' Attitudes Toward Feminism: The Influence of Religiosity, Political Orientation, Gender, Education, and Family. *Sex Roles*, *64*(11–12), 863–874. https://doi.org/10.1007/s11199-011-9946-z

Forbes, G. B., Adams-Curtis, L. E., White, K. B., & Holmgren, K. M. (2003). The Role of Hostile and Benevolent Sexism in Women's and Men's Perceptions of the Menstruating Woman. *Psychology of Women Quarterly*, *27*(1), 58–63. https://doi.org/10.1111/1471-6402.t01-2-00007

Fox, J., Weisberg, S. (2019). *An R Companion to Applied Regression*, Third edition. Sage, Thousand Oaks CA. https://socialsciences.mcmaster.ca/jfox/Books/Companion/

Fu, S., Anderson, D., & Courtney, M. (2003). Cross-cultural menopausal experience: Comparison of Australian and Taiwanese women. *Nursing & Health Sciences*, *5*(1), 77–84. https://doi.org/10.1046/j.1442-2018.2003.00139.x

Gatenby, C., & Simpson, P. (2024). Menopause: Physiology, definitions, and symptoms. Best Practice & Research Clinical Endocrinology & Metabolism, 38(1), 101855. https://doi.org/10.1016/j.beem.2023.101855

Gebretatyos, H., Ghirmai, L., Amanuel, S., Gebreyohannes, G., Tsighe, Z., & Tesfamariam, E. H. (2020). Effect of health education on knowledge and attitude of menopause among middle-age teachers. *BMC Women's Health*, *20*(1), 232. https://doi.org/10.1186/s12905-020-01095-2

Ghazanfarpour, M., Kaviani, M., Abdolahian, S., Bonakchi, H., Najmabadi Khadijeh, M., Naghavi, M., & Khadivzadeh, T. (2015). The relationship between women's attitude towards menopause and menopausal symptoms among postmenopausal women. *Gynecological Endocrinology*, *31*(11), 860–865. https://doi.org/10.3109/09513590.2015.1056138

Glyde, T. (2023). How can therapists and other healthcare practitioners best support and validate their queer menopausal clients? *Sexual and Relationship Therapy*, *38*(4), 510–532. https://doi.org/10.1080/14681994.2021.1881770

Gonçalves, G., Orgambídez-Ramos, A., Giger, J.-C., Santos, J., & Gomes, A. (2015). Validity evidence of the Portuguese adaptation of the Ambivalent Sexism Inventory / Evidencias de validez de la adaptación portuguesa de la Escala de Sexismo Ambivalente. *Revista de Psicología Social*, *30*(1), 152–181. https://doi.org/10.1080/02134748.2014.991518

Gracia, C. R., Sammel, M. D., Freeman, E. W., Lin, H., Langan, E., Kapoor, S., & Nelson, D. B. (2005). Defining menopause status: creation of a new definition to identify the

early changes of the menopausal transition. *Menopause*, *12*(2), 128-135. https://doi.org/10.1097/01.GME.0000141980.81159.B2

Han, E., Hoffman, L., & Wood, S. M. (2023). Using the Internalized Misogyny Scale Across Sexual Orientations: Measurement Invariance and Item Factor Analysis. *Sex Roles*, *88*(5–6), 290–304. https://doi.org/10.1007/s11199-023-01357-x

Hauser, G. A., Huber, I. C., Keller, P. J., Lauritzen, C., & Schneider, H. P. G. (1994). Evaluation der klinischen beschwerden (menopause rating scale). *Zentralbl Gynakol*, *116*(1), 16-23.

Heinemann, L. A., Potthoff, P., & Schneider, H. P. (2003). *Health and Quality of Life Outcomes International versions of the Menopause Rating Scale (MRS) MRSMenopausal SymptomsQuality of LifeQuestionnairesInternational MRS Versions*. http://www.biomedcentral.com/content/supplementary/1477-

Heinemann, K., Ruebig, A., Potthoff, P., Schneider, H. P. G., Strelow, F., Heinemann, L. A. J., & Thai, D. M. (2004). The Menopause Rating Scale (MRS) scale: A methodological review. In *Health and Quality of Life Outcomes* (Vol. 2). BioMed Central Ltd. https://doi.org/10.1186/1477-7525-2-45

Hickey, M., Hunter, M. S., Santoro, N., & Ussher, J. (2022). Normalising menopause. *BMJ*, e069369. https://doi.org/10.1136/bmj-2021-069369

Koyuncu, T., Unsal, A., & Arslantas, D. (2018). Evaluation of the Effectiveness of Health Education on Menopause Symptoms and Knowledge and Attitude in Terms of Menopause. *Journal of Epidemiology and Global Health*, *8*(1–2), 8. https://doi.org/10.2991/j.jegh.2018.08.103

Kruk, M., Matsick, J. L., & Wardecker, B. M. (2021). Femininity Concerns and Feelings About Menstruation Cessation Among Lesbian, Bisexual, and Heterosexual Women: Implications for Menopause. *Journal of Women's Health*, *30*(12), 1751–1760. https://doi.org/10.1089/jwh.2020.8757

Martínez, C., Paterna, C., Roux, P., & Falomir, J. M. (2010). Predicting gender awareness: the relevance of neo-sexism. *Journal of Gender Studies*, *19*(1), 1–12. https://doi.org/10.1080/09589230903057142

Namazi, M., Sadeghi, R., & Behboodi Moghadam, Z. (2019). Social Determinants of Health in Menopause: An Integrative Review. *International Journal of Women's Health*, *Volume 11*, 637–647. https://doi.org/10.2147/IJWH.S228594

Neugarten, B. L., Wood, V., Kraines, R. J., & Loomis, B. (1963). Women's Attitudes Toward the Menopause. *Human Development*, *6*(3), 140–151. https://doi.org/10.1159/000269714

Prina, F., & Schatz-Stevens, J. N. (2020). Sexism and Rape Myth Acceptance: The Impact of Culture, Education, and Religiosity. *Psychological Reports*, *123*(3), 929–951. https://doi.org/10.1177/0033294119826896

R Core Team. (2024). *R: A Language and Environment for Statistical Computing*. R Foundation for Statistical Computing, Vienna, Austria. https://www.R-project.org/

Revelle, W. (2024). *psych: Procedures for Psychological, Psychometric, and Personality Research*. Northwestern University, Evanston, Illinois. R package version 2.4.3, https://CRAN.R-project.org/package=psych

Santoro, N., Epperson, C. N., & Mathews, S. B. (2015). Menopausal Symptoms and Their Management. *Endocrinology and Metabolism Clinics of North America*, *44*(3), 497–515. https://doi.org/10.1016/j.ecl.2015.05.001

Schneider, H. P. G., Heinemann, L. A. J., Rosemeier, H.-P., Potthoff, P., & Behre, H. M. (2000). The Menopause Rating Scale (MRS): reliability of scores of menopausal complaints. *Climacteric*, *3*(1), 59–64. https://doi.org/10.3109/13697130009167600

Targett, R., & Beck, V. (2022). Menopause as a well-being strategy: Organizational effectiveness, gendered ageism and racism. *Post Reproductive Health*, *28*(1), 23–27. https://doi.org/10.1177/20533691211060098

Thapa, R., & Yang, Y. (2022). Attitude Toward and Associating Factors of Menopause: A Study on Cambodian Women. *SAGE Open*, *12*(4), 215824402211292. https://doi.org/10.1177/21582440221129256

Tougas, F., Brown, R., Beaton, A. M., & Joly, S. (1995). Neosexism: Plus Ça Change, Plus C'est Pareil. *Personality and Social Psychology Bulletin*, *21*(8), 842–849. https://doi.org/10.1177/0146167295218007

Vanwesenbeeck, I., Vennix, P., & van de Wiel, H. (2001). 'Menopausal symptoms': associations with menopausal status and psychosocial factors. *Journal of Psychosomatic Obstetrics & Gynecology*, *22*(3), 149–158. https://doi.org/10.3109/01674820109049967

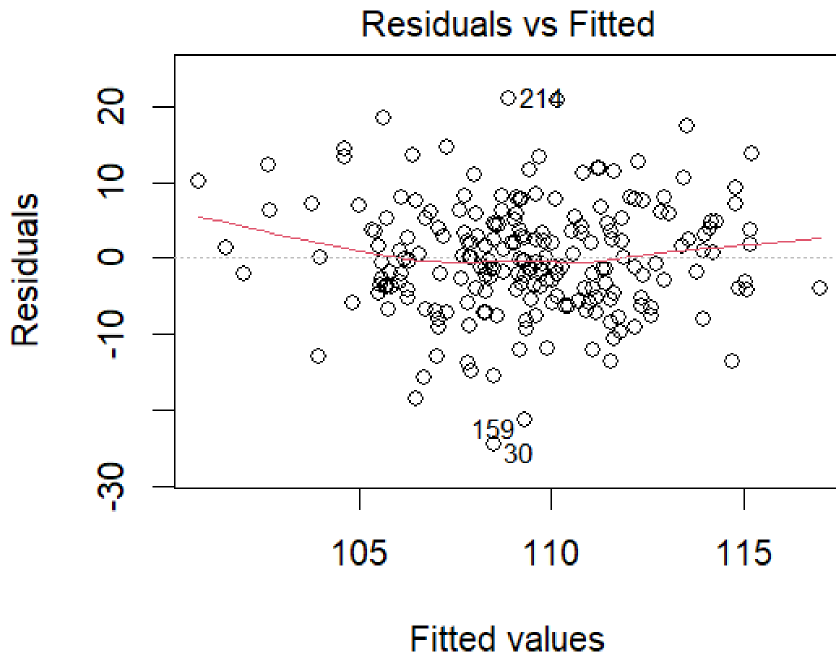
Wickham, H., Averick, M., Bryan, J., Chang, W., McGowan, L.D., François, R., Grolemund, G., Hayes, A., Henry, L., Hester, J., Kuhn, M., Pedersen, T.L., Miller, E., Bache, S. M., Müller, K., Ooms, J., Robinson, D., Seidel, D.P., Spinu, V., Takahashi, K., Vau ghan, D., Wilke, C., Woo, K., Yutani, H. (2019). "Welcome to the tidyverse." *Journal of Open Source Software*, *4*(43), https://doi.org/10.21105/joss.01686

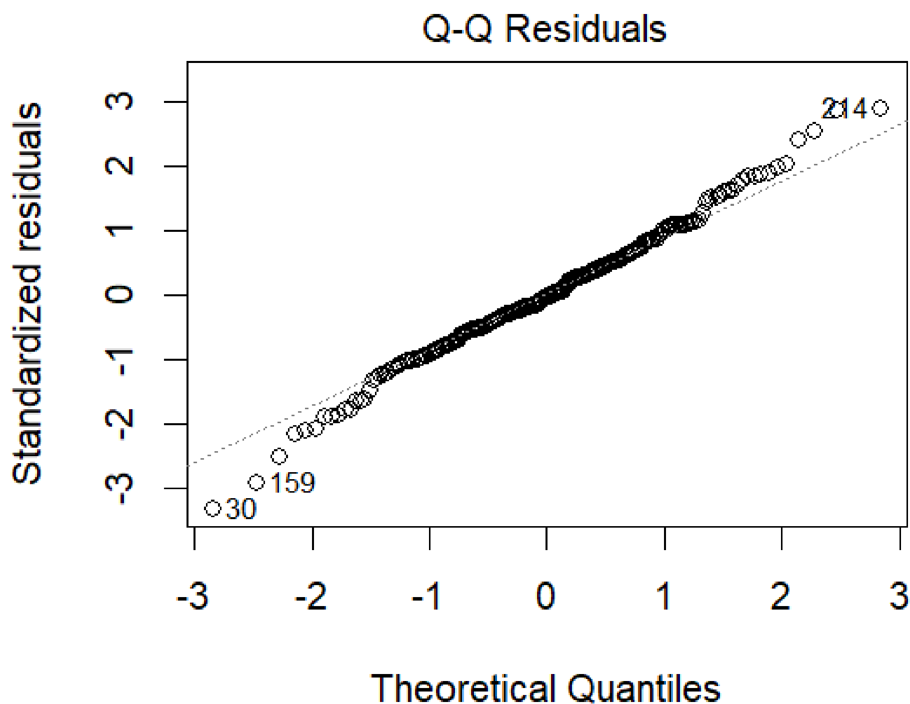
Wickham, H., Miller, E., Smith, D. (2023). haven: Import and Export 'SPSS', 'Stata' and 'SAS' Files. R package version 2.5.4. https://CRAN.R-project.org/package=haven

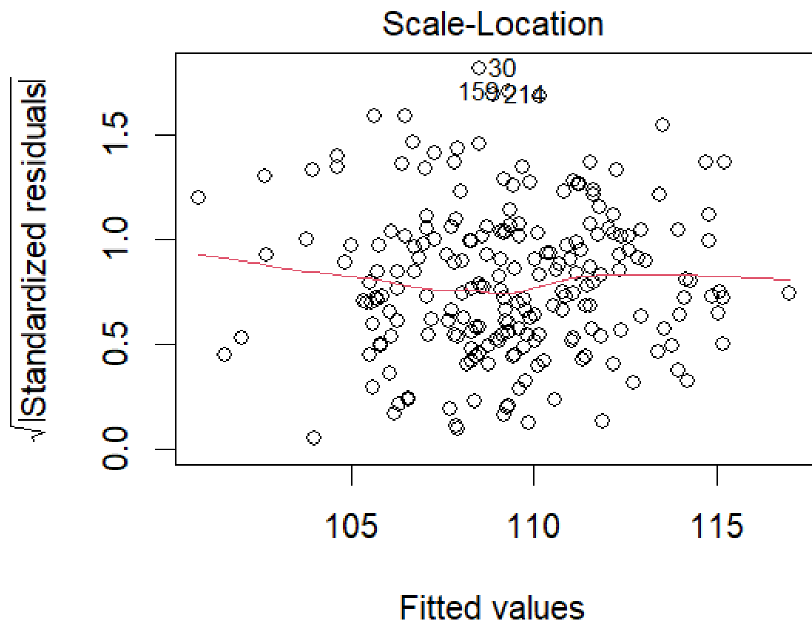
World Health Organization. (2022, October 17). *Menopause*. Retrieved February 12, 2024, from https://www.who.int/news-room/fact-sheets/detail/menopause

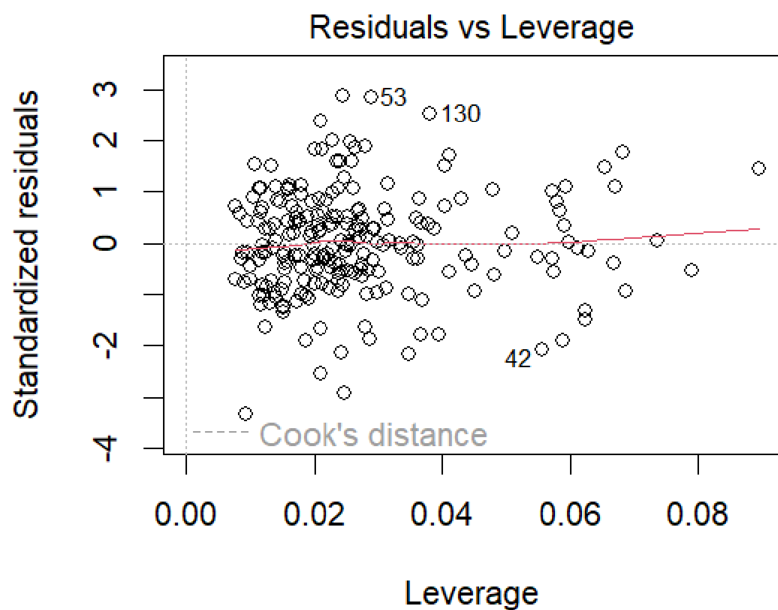
Yanikkerem, E., Koltan, S. O., Tamay, A. G., & Dikayak, ş. (2012). Relationship between women's attitude towards menopause and quality of life. *Climacteric*, *15*(6), 552–562. https://doi.org/10.3109/13697137.2011.637651

Appendix 1: Plots for Parametric Assumptions

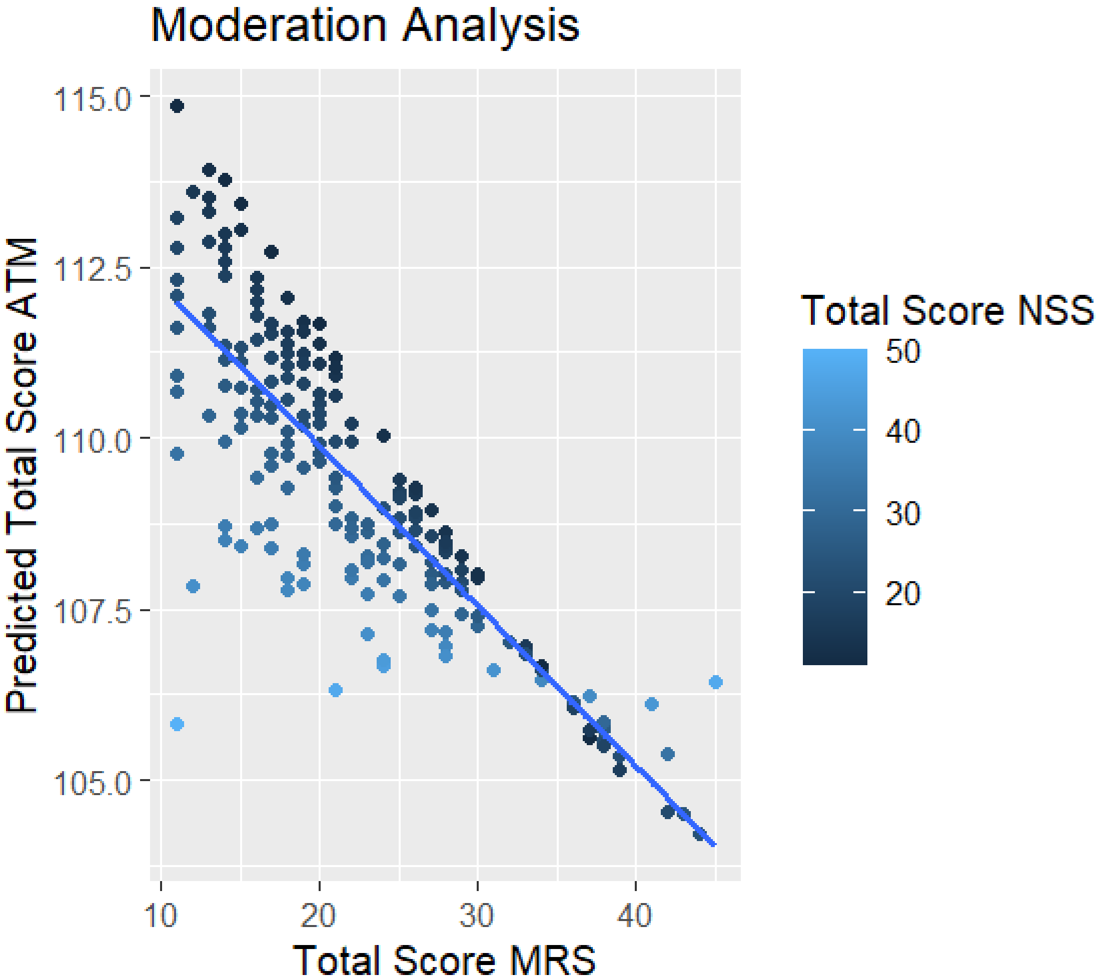




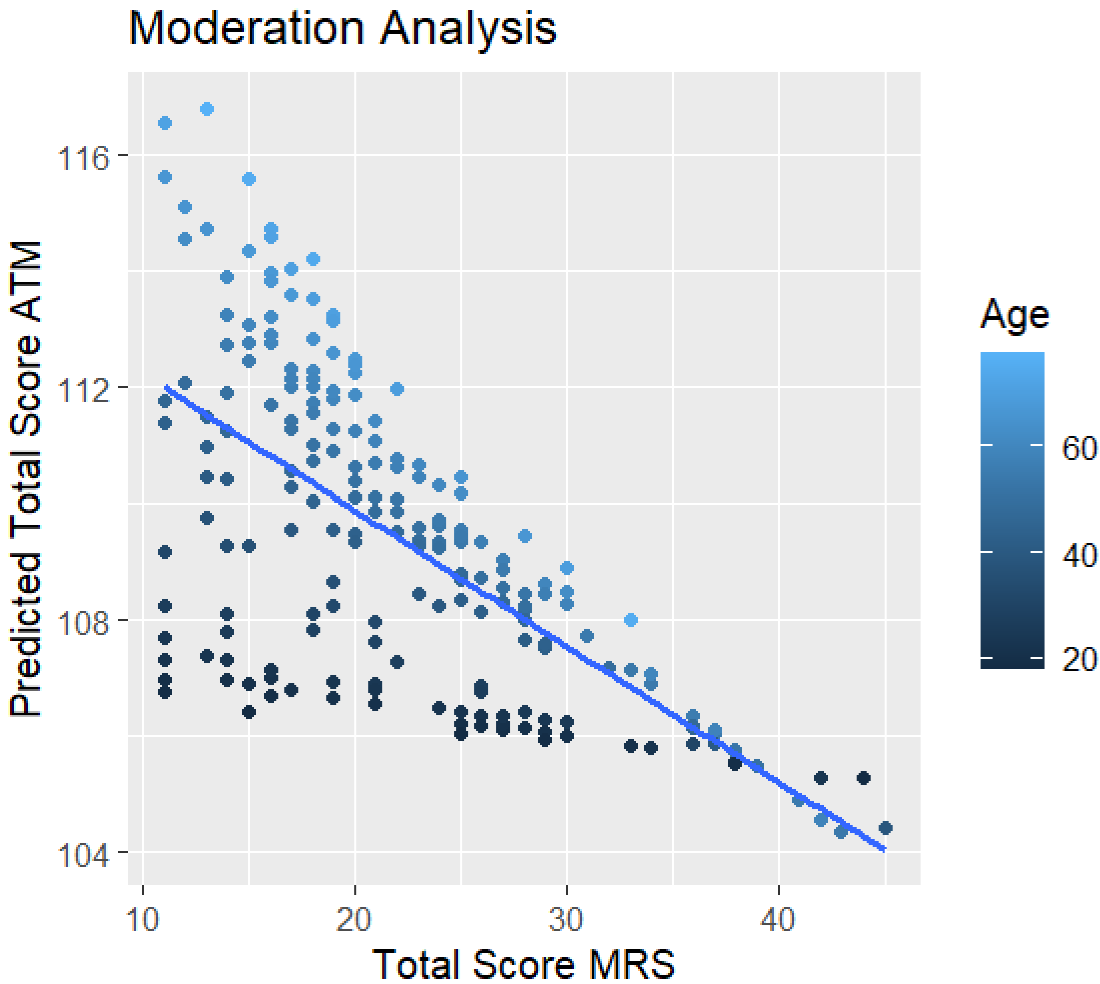

Scale-Location
√|Standardized residuals|
0.0
0.5
1.0
1.5
105
110
115
Fitted values
core_ATM ~ total_score_MRS + total_score_NSS + menop
30
159
214


Residuals vs Leverage
Standardized residuals
-4
-2
0
1
2
3
0.00
0.02
0.04
0.06
0.08
Leverage
core_ATM ~ total_score_MRS + total_score_NSS + menop
53
130
42
Cook's distance

Appendix 2: Moderation Effect of Sexism on Menopausal Symptoms and Attitudes Towards Menopause



Appendix 3: Moderation Effect of Age on Menopausal Symptoms and Attitudes Towards Menopause



Appendix 4: Moderation Effect of Menopausal Status on Menopausal Symptoms and Attitudes Towards Menopause