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Relationships between menstrual and menopausal attitudes and associated demographic and health characteristics: The Hilo Women's Health Study

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Abstract

The objective of this study was to examine the relation of menstrual attitudes to menopausal attitudes and the demographic and health characteristics associated with each. This cross-sectional study consisted of a randomly selected sample of 1824 respondents aged 16 to 100 years in multi-ethnic Hilo, Hawai'i. Women completed questionnaires for demographic and health information, such as age, ethnicity, education, residency in Hawai'i, menopausal status, exercise, and attitudes toward menstruation and menopause. Women more often chose positive terms, such as "natural," to describe menstruation (60.8%) and menopause (59.4%). In bivariate analyses, post-menopausal women were significantly more likely to have positive menstrual and menopausal attitudes than pre-menopausal women. Factor analyses were used to cluster attitudes followed by linear regression to identify demographic characteristics associated with factor scores. Asian-American ethnicity, higher education, reporting more exercise, and growing up outside of Hawai'i were associated with positive menstrual attitudes. Higher education, older age, post-menopausal status, growing up outside of Hawai'i and having hot flashes were associated with positive menopausal attitudes. Bivariate correlation analyses suggested significant associations between factor scores for menstrual and menopausal attitudes. Both negative and positive menstrual attitudes were positively correlated with the anticipation of menopause, although negative attitudes toward menstruation were negatively correlated with menopause as a positive, natural life event. Demographic variables, specifically education and where one grows up, influenced women's attitudes toward menstruation and menopause and should be considered for inclusion in subsequent multi-ethnic studies. Further research is also warranted in assessing the relationship between menstrual and menopausal attitudes.

Keywords

Attitudes; menstruation; menopause; ethnicity; exercise; hotflashes; menstrual cramps

INTRODUCTION

Attitudes toward menstruation and menopause are shaped by both cultural and individual characteristics. Menstruation and menopause are not celebrated in western cultures, where they are depicted by the mass media and the health-care profession as something to be managed or remedied, and as something less than feminine (Del Saz-Rubio and Pennock-Speck 2009; Hutson et al. 2009; Johnston-Robledo 2006; Linton 2007; Luke 1997; Nelson and Signorielli 2007; Raftos et al. 1998; Rose et al. 2008). Conversely, menstruation has been viewed historically and cross-culturally as a natural phenomenon (Roberts 2004). In fact, a recent study found that the majority of women regarded menstruation as natural; only a small minority thought of it as a nuisance or a curse (Morrison et al. 2010). Prompting much of the current research about women's attitudes toward cyclical bleeding is the recent introduction of birth control that suppresses menstruation (Edelman et al. 2007, Fruzzetti et al. 2008, Glasier et al. 2003, Rose et al. 2008; Sánchez-Borrego and García-Calvo 2008).

Menopause has also been medicalized, recently gaining media attention highlighting the findings of risks associated with hormone therapy and women's and health-care practitioners' responses (MacLennan et al. 2009; Rossouw et al. 2002; Sievert et al. 2008; Worcester 2004). Because most research on menopause has focused on the undesirable aspects, such as hot flashes and night sweats, this has inadvertently contributed to the negative social construction of menopause. Undoubtedly, in some cases, menopausal symptoms can be problematic and affect women's quality of life but perceptions and attitudes toward menopause are also influenced by culture, education, and geography (Donati et al. 2009; Gannon and Ekstrom 1993; Hvas 2001; Leon et al. 2007). In fact, the last decade has seen an abundance of research on menopausal attitudes nationally and internationally, many of which highlight positive outcomes (Lindh-Åstrand et al. 2007; Utian and Boggs 1999).

Numerous researchers have examined attitudes toward menstruation (Sanchez-Borrego and García-Calvo 2008) and menopause (Kowalcek et al. 2005; Sommer et al. 1999), but noticeably absent is research on the interaction between the two and their associated demographic and health characteristics. McPherson and Korfine's (2004) work, which indicated that women who had positive menarcheal experiences tended to have positive attitudes toward menstruation, prompted us to examine the relationship between menstrual and menopausal attitudes. The purpose of this study was to identify factors associated with attitudes toward menstruation and menopause in a randomly selected sample of 1824 women aged 16 to 100 years, drawn from the multi-ethnic population in Hilo, Hawai'i. Our first hypothesis was that women with a positive attitude toward menstruation would have a positive attitude toward menopause because of a positive inclination toward natural processes. Alternatively, we hypothesized that those with a negative attitude toward menstruation would have a negative attitude toward menopause because of undesirable experiences (e.g. menstrual cramps or hot flashes). Additionally, we hypothesized that women with a negative attitude toward menstruation would have a positive attitude toward menopause, as they anticipated the end of the monthly bleeding. Additional variables investigated were those previously found to affect attitudes toward menstruation and menopause in other studies, such as age, menopausal status (Hvas 2001), history of hysterectomy (Bowles 1986; Gannon and Ekstrom 1993; Neugarten et al. 1963; Sievert and Espinosa-Hernandez 2003; Sommer et al. 1999; Wagner et al. 1995), education (Lee 2002), ethnicity and where a woman spent the formative years of her life (Avis

et al. 2001; Edelman et al. 2007; Sommer 1999), and health-related behaviors such as exercise (Daley et al. 2009; Gallicchio et al. 2009; Jahromi et al. 2008; Sommer 1999).

METHODS

Study population

The Hilo Women's Health Survey was conducted in Hilo, Hawai'i to assess women's overall health. From the summer of 2004 to the summer of 2005, 6,401 survey packets were sent to a randomly selected sample of households using the County of Hawai'i tax map key (see Sievert et al. 2007 for more details). The information packet gave an overview of the study, its purpose, assurance of confidentiality, subsequent stages of the study, and invited any women of the household over 19 years of age to complete and return the survey in the enclosed, self-addressed envelope. One reminder notice was mailed to encourage the return of the survey. Of the 1824 (28.5%) surveys returned, nine were from women less than 19 years old. Their responses were included in the analyses. Although the questionnaire was anonymous and because surveys were sent to addresses, not individuals, women had the option of giving us their names and contact information to receive a \$20 stipend. If women sent us their names, the data were de-identified immediately. The study was approved by the University of Hawai'i Committee on Human Studies.

Measurements

The questionnaire included demographic questions developed specifically for the Hilo research site (Brown et al. 1998, 2001), frequently used symptom lists for symptoms associated with menopause (Avis et al. 1993; Kronenberg 1990), attitude lists developed from open-ended interviews prior to studies carried out in New York and Massachusetts (Leidy et al. 2000; Sievert et al. 2001), and measures of menopausal status that followed the convention of the WHO (1981; 1996). The questionnaires were pilot-tested with women aged 40–60 years, (n=8, including 2 Japanese, 1 Chinese, and 1 woman with mixed Hawaiian/Japanese ancestry), then revised and piloted again (n=11, including 1 Japanese, 1 Chinese, and 4 women of mixed ancestry.) Respondents were asked for their age, education, ethnicity (but not race)ⁱ, whether they were born in Hawai'i, on the US mainland, or outside of the US. Women were asked general health-related questions, such as whether they exercised, had experienced menstrual cramps, or underwent a hysterectomy. Pre-menopausal women had regular cycles; peri-menopausal women had cycles that had changed in length by 7 days or missed more than 1 cycle in the last 12 months, and post-menopausal women had ceased menstruating for at least 12 months. Women on cycle-suppressing contraceptives were treated as pre-menopausal. Women who had undergone hysterectomies were treated as post-menopausal.

To measure attitudes toward menstruation, women were asked to check seven possible characteristics – a curse, a sign of fertility, no problem, a relief from premenstrual symptoms (PMSx)ⁱⁱ, a nuisance, natural, and/or a sign of femininity – when asked “What words would you use to describe menstruation?” Correspondingly, they were given eight possible characteristics for menopause – freedom, natural, loss of fertility, eagerly awaited, onset of old age, loss of femininity, a nuisance, and/or no problem – when asked “How would you describe menopause?” For both questions, they could choose more than one characteristic.

ⁱIn concordance with the *American Association of Physical Anthropologists (AAPA) Statement on Biological Aspects of Race* (<http://physanth.org/association/position-statements/biological-aspects-of-race/?searchterm=race>), a position statement outlining why the term ‘race’ is scientifically problematic, we asked our participants to identify their ethnicity rather than race. However, we have used the term ‘race’ in this manuscript in reference to other researchers work to acknowledge their use of the term.

ⁱⁱThe choice given in the questionnaire was “relief from PMS” using the acronym only. Because we did not spell out nor give the clinical definition for ‘premenstrual syndrome’, the intention in the questionnaire was for the colloquial usage of ‘PMS’ referring to symptoms felt around the time of menstruation. Thus, the accurate acronym for premenstrual symptoms, PMSx, is used in this manuscript.

Statistical Analyses

Frequencies for attitudes toward menstruation and menopause were assessed by Chi-square analyses across menopausal status categories (pre-, peri-, post) and for the total sample. Separate factor analyses were conducted to examine which menstrual and menopausal attitudes clustered together. Principal component analyses were used to extract two factors for menstrual attitudes and three factors for menopausal attitudes (based on the criteria of eigen values greater than 1.00) using a varimax rotation. Factor scores of $> +.400$ and $< -.400$ were used to identify the attitudes associated with each cluster.

The factor scores were used as dependent variables in a backward stepwise linear regression to examine demographic, health, and lifestyle characteristics associated with menstrual and menopausal attitudes. Criteria used for backward selection were $F \leq 0.05$ for entry, and $F \geq 0.10$ for removal and $P < 0.05$. Variables entered into the linear regression analyses were age at the time of survey, menopausal status (pre-, peri-, post), ethnicity (European-American, Japanese-American, Chinese, Filipino, Other/Mixed), level of education (high school or less, some college or college graduate, some graduate school or higher degree), where the participant grew up (HI, US mainland, outside of the US), exercise or sports participation (no, yes), having had a hysterectomy (no, yes), having ever had menstrual cramps (no, yes), and having ever had hot flashes. Factor scores were used to examine the correlation between menstrual and menopausal attitudes. R^2 was used to assess the fit of the linear regression models. Interactions among variables were not examined.

RESULTS

Sample Characteristics

The average age of women in our sample was 47.2 (s.d. 16.4) years, and an almost equal proportion of European-American (22.4) and Japanese-American (25.9) women participated (Table 1). The ethnic proportions of the participants were similar to those reported in the 2000 Census figures for Hilo (Population 40,759; 17.1% white, 26.7% Japanese, 1.6% Chinese, 5.8% Filipino, and 44.4% Other/Mixed). Approximately half of the women were pre-menopausal with the other half predominantly post-menopausal. Almost 80% of our sample had some college education or more. Most women grew up in Hawai'i. Almost one-fifth of our sample underwent a hysterectomy. Over half played sports or exercised regularly. The majority of respondents said they had experienced menstrual cramps and almost half had experienced a hot flash.

Frequencies

More than 60% of the respondents regarded menstruation as natural (Figure 1) with significantly more post-menopausal than pre-menopausal women reporting this ($p < 0.01$; Table 2). Of the total, 20.2% associated menstruation with femininity but significantly more post-menopausal than pre-menopausal women did so. Significantly more post-menopausal than pre-menopausal women viewed menstruation as no problem. Almost 7% of women regarded menstruation as a relief from PMSx; pre-menopausal women were more likely to report this than post-menopausal women. Less than half of all participants thought menstruation was a nuisance with no significant differences across the menopausal status groups. Less than 12% of the sample regarded menstruation as a curse, with significantly more pre-menopausal than post-menopausal women making that association (Figure 1 and Table 2).

Almost 60% (59.4%) of all women regarded menopause as natural (Figure 2) with significantly more post-menopausal women reporting this (Table 3). Significantly more post-menopausal than pre-menopausal women thought of menopause as a time for freedom. Of the 22.1% of the sample who did not regard menopause as a problem, significantly more post-menopausal

women said menopause was not a problem than did pre- and peri-menopausal women. Although less than 10% of women eagerly awaited menopause, significantly more pre-menopausal than post-menopausal women did. Although 20.2% of women associated femininity with menstruation, very few (3.3%) associated menopause with a loss of femininity, with no significant differences across menopausal status groups. Less than 15% of the sample regarded menopause as a nuisance with no menopausal status group differences. Significantly more pre- and peri-menopausal than post-menopausal women regarded menopause as the onset of old age (Figure 2 and Table 3).

Factor Analyses—Factor analyses resulted in two clusters of attitudes associated with menstruation. The first factor consisted of negative attitudes (curse, nuisance, problem, and unnatural), and the second factor consisted of a positive attitude (sign of femininity and fertility) (Table 4). Three factors represented attitudes associated with menopause: negative attitudes (onset of old age and loss of fertility and femininity), positive anticipatory attitudes (freedom and eagerly awaited); and positive natural attitudes (natural, no problem, and not a nuisance) (Table 5).

Variables associated with attitudes toward menstruation

Using factors as dependent variables, we found that increasing age was significantly associated with a decline in negative attitudes toward menstruation (Table 6). Women who exercised were less likely to have negative menstrual attitudes, while women with menstrual cramps were more likely to express negative attitudes toward menstruation. More Asian women and women of other/mixed ethnicities expressed positive attitudes toward menstruation in contrast to European-Americans. Women who grew up outside of Hawai'i were more likely to have a positive attitude toward menstruation as were women with a higher education. Women who exercised and those who had had a hysterectomy also were more likely to have positive attitudes toward menstruation.

Variables associated with attitudes toward menopause

Using factors scores, we found that as women's age increased, they were less likely to have a negative attitude toward menopause, but the higher their education, the more likely they were to have a negative attitude (Table 6). Having ever experienced hot flashes was also associated with a negative attitude. A positive, anticipatory attitude toward menopause was associated with increasing age, a higher education, and growing up outside of Hawai'i as well as having ever experienced a hot flash. Women who had menstrual cramps did not anticipate menopause positively. Increasing age and higher education were also associated with regarding menopause as a natural occurrence as were the latter stages of menopausal status and growing up outside of Hawai'i. Women who had had a hysterectomy or had experienced either menstrual cramps or hot flashes were less likely to regard menopause as natural.

Relationship between menstrual and menopausal attitudes—A bivariate correlation analysis suggested that a negative attitude toward menstruation was positively correlated with a negative attitude toward menopause (Table 7). A negative attitude toward menstruation was also positively correlated with a positive anticipation of menopause, but not with a positive attitude toward menopause as natural. A positive attitude toward menstruation was positively correlated with anticipating menopause and regarding it as natural. It was also positively correlated with a negative attitude toward menopause.

DISCUSSION

Despite the tendency for the negative construction and medicalization of menstruation in Western cultures (Delaney et al. 1988; Linton 2007; Luke 1997) and the advocacy for menstrual

suppression in mainstream media (Johnston-Robledo et al. 2006) and scholarly literature (Thomas and Ellertson 2000), more women in our study selected the word “natural” to describe menstruation than any other word or phrase. Correspondingly, 83% of young women (mean age of 24.3 years) regarded menstruation as natural in a smaller study (n=136) also conducted in Hawai‘i (Morrison et al. 2010). Studies conducted in Spain and London found similarly positive outcomes with women stating that menstruation made them feel good, feel like a woman, was a way to get rid of toxins and that their body was in balance (Cheung and Free 2005; Sanchez-Borrego and García-Calvo, 2008).

Our study showed a comparable positive outcome for menopause. Almost 60% of our participants felt menopause was natural, a finding similar to a study of Ecuadorian nurses in which 94% over 40 years of age stated it was normal and not a problem (Leon et al. 2007). Although one-fifth of our sample associated menstruation with femininity, very few women associated menopause with a loss of femininity, a finding also consistent with the results from the Ecuador study (Leon et al. 2007).

We found that older women were less likely to express negative attitudes toward both menstruation and menopause, and more likely to express a positive, anticipatory attitude toward menopause and indicate that menopause was a positive, natural change. Similarly, a recent study found that 53 and 54-year old Swedish women regarded menopause as freedom, as did 20% of our participants of all ages, and were relieved not to be concerned about pregnancy (Lindh-Åstrand et al. 2007). No longer bleeding also has practical advantages, giving women more freedom (Kowalcek et al. 2005).

Women with a higher education held contrasting views. On the one hand, higher education was associated with a negative attitude toward menopause while on the other, it was associated with a positive attitude toward menstruation and a positive, anticipatory attitude toward menopause. Educated women are possibly seeking out information on menstruation and menopause and are therefore better-prepared and more knowledgeable, resulting in a more positive attitude (Lee 2002). However, knowing more about menopause would not preclude women from associating menopause with inescapable biological factors such as a loss of fertility and its relationship with advancing age.

Women in our study who played sports or exercised regularly held a positive view toward menstruation, complementing the findings of a recent study showing an association of regular exercise with significant diminishing of physical and psychological premenstrual symptoms (Jahromi et al. 2008). If women can mitigate the negative effects of menstruation with exercise, they may feel better about menstruation in general. However, we did not find an association between exercise and positive attitudes toward menopause.

In concordance with numerous national and international studies that have found racial/ethnic differences in women’s attitudes toward menstruation (Edelman et al. 2007; Glasier et al. 2003), we found non European-Americans, i.e. Asian women and those of other ethnicities, to have a more positive attitude toward menstruation compared with European-Americans. However, ethnicity was not associated with attitudes toward menopause. We found that women who grew up outside of Hawai‘i were more likely to have a positive attitude toward both menstruation and menopause. Sommer et al. (1999) found not only race/ethnicity but level of acculturation to be significantly related to women’s construction of menopause. Women growing up outside of Hawai‘i may have been exposed to different familial, cultural, and educational, influences during their formative years thereby influencing their positive attitudes toward menstruation and menopause. It appeared that where a woman grew up was more important than her ethnicity with regard to attitudes toward menopause in multi-ethnic Hilo, Hawai‘i.

Women with menstrual cramps were less likely to regard menopause with positive attitudes, perhaps inferring that if they had physiological symptoms associated with menstruation they would also have them with menopause. Not surprisingly, women experiencing hot flashes described menopause with negative attitudes. An early outcome of SWAN was the finding that women with a negative attitude toward menopause were more likely to have menopausal symptoms (Avis et al. 1997), begging the question of which came first – the hot flashes or the attitude.

Motivated by McPherson and Korfine's (2004) work which found an association between early menarcheal experience and attitudes toward menstruation, we found a clear association between attitudes toward menstruation and attitudes toward menopause. As hypothesized, we found that women with a negative attitude toward menstruation were more likely to have a negative attitude toward menopause. These women may be assuming that detrimental experiences with one aspect of the reproductive life cycle may predispose them to a similar outcome with the latter stage of the reproductive cycle. This does not contradict the finding that having negative attitudes toward menstruation may also predispose women to anticipate menopause positively because menopause can remove physical or psychological burdens associated with menstruation.

In addition, the cluster of positive attitudes (sign of femininity and fertility) was correlated with the negative factor score for menopause (old age, loss of fertility, and femininity), perhaps reflecting Western societal attitudes toward women and aging. On the other hand, women who had a positive attitude toward menstruation tended to also positively anticipate menopause and regard it as natural. This seems contradictory, but reflects the complexity of meaning and experience associated with both menstruation and menopause. It has been suggested that women's attitudes toward menopause evolve as they progress through the transition (Fu et al. 2003) but our study suggests that women are already pre-disposed toward how they view menopause based on their attitudes toward menstruation, positive or negative.

Our study had several limitations that could be addressed in future research. For example, 85% of women reported the experience of menstrual cramps, but we did not ask about the timing (age) or severity of cramps. With respect to birth control, only 11% and 2.4% of our sample were using oral contraception and Depo-Provera, respectively, but this may have altered their experience and affected their attitudes toward menstruation. Pregnancy status was not assessed, therefore pregnant women may have been categorized incorrectly (as peri- or post-menopausal) based on date of last menstrual period. Another possible limitation was that our survey questions were based on recall, although a recent study found postmenopausal women to have very accurate recall of their reproductive life history (Lucas et al. 2008). A recent study found that reporting bias may be responsible for the ethnic difference found in reporting hot flashes (Brown et al. 2009), a legitimate consideration for our study. Despite the apparent representativeness of our sample with regard to ethnicity, our study may have suffered from participation bias, given the moderately low participation rate.

Although our study found that ethnicities other than European-Americans were more likely to report what we describe as negative menstrual and menopausal attitudes (for example menopause as the onset of old age), in future studies, greater attention needs to be given to cultural constructions from the perspective of the researchers as well as the respondents. In Asian cultures, the onset of old age and its attendant respect may be a positive attitude in contrast to the European-American construction. Therefore, our study might suffer from researcher bias rather than reporting bias, both of which are inherent limitations in using surveys. Also, for future studies, a quantitative study such as this would benefit from in-depth qualitative analysis to decipher more clearly some of the relationships found, especially with respect to the construction of womanhood and the meaning of aging.

CONCLUSION

Overall, women had positive attitudes toward menstruation and menopause. Age, rather than menopausal status, was significantly associated with negative attitudes toward menstruation and menopause, as well as positive, anticipatory attitudes toward menopause.. Physically active women were more likely to have positive attitudes toward menstruation, and highly educated women were more likely to have positive attitudes toward both menstruation and menopause, but also more likely to have negative attitudes toward menopause. Education, age, hot flashes, and where a woman grew up, but not ethnicity, were associated with attitudes toward menopause. Correlations were observed between attitudes toward menstruation and attitudes toward menopause, whether they were positive or negative. Because women may be predisposed to formulate their attitudes toward menopause based on their attitudes toward menstruation, receiving constructive messages and optimistic support at the beginning of women's reproductive life history seems imperative. Research highlighting the beneficial aspects of menstruation and menopause would be an affirmative contribution to women's health.

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Figure 1.
Menstrual attitudes by menopausal status (Percentages)

Figure 2.
Menopausal attitudes by menopausal status (Percentages)

Table 1

Participant characteristics (Percentages, except for age)

	N	
Age (years)	1797	Mean 47, s.d. 16.4 Range 16–100
Menopausal Status	1786	Percent
Pre		51.7
Peri		5.5
Post		42.8
Ethnicity	1802	
European-American		22.4
Japanese-American		25.9
Chinese		1.3
Filipino		2.9
Other/Mixed		47.5
Education	1824	
High school or less		21.8
Some college or degree		57.2
Grad school or more		20.9
Grew Up	1812	
In Hawaii		74
On the US mainland		20.5
Outside US		5.5
Hysterectomy	1720	18.6
Menstrual Cramps*	1701	84.1
Hot Flashes*	1697	46.7
Exercise/ Play sports	1796	55.6

*
ever experienced

Table 2

Attitudes toward menstruation by menopausal status, n=1760 (Percentages)

Percent				
“What words would you use to describe menstruation?”	Pre-menopausal	Peri-menopausal	Post-menopausal	P-values
Natural	57	67	65	.002
Fertility	23	30	27	.098
Femininity	18	23	23	.021
No problem	16	15	22	.019
Relief from PMSx	9	7	4	.000
Nuisance	44	44	41	.305
Curse	15	10	8	.000

PMSx = premenstrual symptoms

Table 3

Attitudes toward menopause by menopausal status, n=1524 (Percentages)

Percent				
“What words would you use to describe menopause?”	Pre-menopausal	Peri-menopausal	Post-menopausal	P-values
Natural	55	61	64	.004
Freedom	16	23	32	.000
No problem	10	14	35	.000
Eagerly awaited	10	10	6	.013
Femininity loss	3	7	4	.129
Fertility loss	26	29	21	.048
Nuisance	11	15	15	.128
Old age	44	43	29	.000

Table 4

Factor loadings for attitudes toward menstruation.

	Negative	Positive
Curse	.567	.011
PMS relief	.169	.302
Femininity	-.083	.812
Fertility	-.085	.815
Nuisance	.710	.061
No problem	-.608	-.113
Natural	-.561	.291

Values in boldface indicate large ($> +.400$ or $< -.400$) standardized factor loadings.

Table 5

Factor loadings for attitudes toward menopause.

	Negative	Positive anticipatory	Positive natural
Freedom	.073	.741	.155
Eagerly Awaited	-.059	.739	-.104
Nuisance	.130	-.046	-.582
Natural	.160	-.072	.736
Old age	.656	-.243	-.097
No problem	-.333	.289	.443
Fertility loss	.784	.099	.153
Femininity loss	.483	.223	-.288

Values in boldface indicate large ($> +.400$ or $< -.400$) standardized factor loadings.

Table 6

Results of backward stepwise linear regression on factor scores.

Factors	Variables in final model	Unstandardized β and SE	P
1. Menstruation: Negative attitudes: nuisance, curse, problem, unnatural	Age	-0.008 ± 0.002	0.000
	Sports/exercise	-0.173 ± 0.049	0.000
	Menstrual cramps	0.399 ± 0.069	0.000
2. Menstruation: Positive attitudes: femininity, fertility	Ethnicity	0.017 ± 0.006	0.005
	Education	0.110 ± 0.039	0.005
	Grow up	0.120 ± 0.047	0.011
	Sports/exercise	0.123 ± 0.051	0.016
	Hysterectomy	0.167 ± 0.064	0.010
3. Menopause: Negative attitudes: old age, fertility loss, femininity loss	Education	0.158 ± 0.040	0.000
	Age	-0.012 ± 0.002	0.000
	Grow up	0.088 ± 0.046	0.054
	Hot flashes	0.111 ± 0.053	0.038
4. Menopause: Positive, anticipatory attitudes: freedom, eagerly awaited	Education	0.127 ± 0.040	0.001
	Age	0.007 ± 0.002	0.000
	Grow up	0.101 ± 0.046	0.026
	Menstrual cramps	-0.154 ± 0.072	0.033
	Hot flashes	0.207 ± 0.053	0.000
5. Menopause: Positive, natural attitudes: natural, no problem, not a nuisance	Education	0.116 ± 0.040	0.004
	Age	0.005 ± 0.002	0.039
	Menopausal status	0.172 ± 0.041	0.000
	Grow up	0.116 ± 0.046	0.011
	Menstrual cramps	-0.258 ± 0.072	0.000
	Hysterectomy	-0.273 ± 0.077	0.000
	Hot flashes	-0.193 ± 0.054	0.000

Table 7

Pearson correlations for factor scores for menstrual and menopausal attitudes

	Negative Menopause	Positive Anticipatory Menopause	Positive Natural Menopause
Negative Menstruation	.05 [*]	.20 ^{**}	-.34 ^{**}
Positive Menstruation	.39 ^{**}	.12 ^{**}	.17 ^{**}

*
p<0.05**
p<0.01