

AMBIVALENT SEXISM INVENTORY: STANDARDIZATION AND NORMATIVE DATA IN A SAMPLE OF THE BASQUE COUNTRY

Maite Garaigordobil and Jone Aliri
University of the Basque Country (Spain)

Abstract

The main goal of this study was to standardize the Ambivalent Sexism Inventory. With regard to this goal, the study analyzes differences in sexism as a function of gender, age, and educational level, exploring the correlations among the scales of the inventory and their factor structure. The sample comprises 5313 participants (2581 men and 2795 women), aged 14 to 70 years, from the Basque Country (Spain). The results confirm significantly higher scores in the men in hostile sexism in all age groups, and in benevolent sexism up to 54 years of age. Sexism increases with age but not linearly; a high score was observed between 14 and 18 years of age, which progressively decreased until the age of 54, and it subsequently increased, with the highest scores observed between 64 and 70 years of age. Inverse relations between sexism and educational level were found. The correlations between the two forms of sexism and the factor structure of the test were confirmed. The study contributes normative data to assess sexism in the Basque Country.

KEY WORDS: *Ambivalent Sexism Inventory, gender, age, educational level, standardization.*

Resumen

El objetivo principal del estudio es realizar una estandarización del "Inventario de sexismo ambivalente". En conexión con este objetivo el estudio analiza si existen diferencias en el sexismo en función del sexo, la edad y el nivel de estudios, explorando las correlaciones entre las escalas del inventario y su estructura factorial. Participaron 5313 participantes, de 14 a 70 años (2.518 varones, 2.795 mujeres) del País Vasco. Los resultados confirman puntuaciones significativamente superiores en los hombres en sexismo hostil en todos los grupos de edad, en sexismo benevolente hasta los 54 años. El sexismo aumenta con la edad pero no de forma lineal, se observa una puntuación elevada de 14 a 18 años, progresivamente disminuye hasta los 54, y posteriormente aumenta

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Correspondence: Maite Garaigordobil, Department of Personality, Assessment, and Psychological Treatments, Faculty of Psychology, University of the Basque Country, Avda. de Tolosa, 70, 20018 San Sebastian (Spain). E-mail: maite.garaigordobil@ehu.es

observándose las puntuaciones más altas de 64 a 70 años. Se encuentran relaciones inversas entre sexismo y nivel de estudios. Se confirman las correlaciones entre las dos formas de sexismo y la estructura factorial de la prueba. El estudio aporta datos normativos para evaluar el sexismo en el País Vasco.

PALABRAS CLAVE: *Inventario sexismo ambivalente, género, edad, nivel de estudios, estandarización.*

Introduction

Sexism is defined as a discriminatory attitude towards people because of their biological sex, as a function of which, diverse characteristics and behaviors are assumed. From a psychosocial analysis of gender, sexism is considered one of the main beliefs that maintains inequality of the sexes, and recent studies (García, Palacios, Torrico, & Navarro, 2009) have also revealed the direct relations between sexism and violence towards women, both physical and verbal.

There is no doubt that women have made much progress in decreasing gender inequality; nevertheless, the results of current studies confirm that the persistence of discrimination as a function of gender is still a problem in contemporary society (Ayres, Friedman, & Leaper, 2009). In this sense, some studies (Barreto, Ellemers, Cihangir, & Stroebe, 2009) show that people tend to believe that gender discrimination is no longer a problem in contemporary societies; and this can be explained because sexist expressions have become more evasive and difficult to recognize.

Despite the relevance and the social implications of sexism, there are currently no standardized assessment instruments with Spanish samples to assess sexism from adolescence to adulthood. Therefore, in this study, the main goal is the standardization of the *Ambivalent Sexism Inventory* (ASI, Glick & Fiske, 1996) using a representative sample from the Basque Country, obtaining data with which to elaborate the norms. The study is based on the theory of ambivalent sexism and determines whether there are differences in sexism as a function of diverse psychosocial variables (sex, age, educational level).

Sexism, understood as an attitude of prejudice towards women, has evolved over the years, becoming more subtle. A significant contribution to the understanding of sexism was carried out by Glick and Fiske (1996, 1999, 2001), who define ambivalent sexism (AS) as the result of the combination of two elements with antagonist affective loads: 1) hostile sexism (HS) shares its negative charge with more traditional sexism, it considers women to be inferior to men and adopts a stereotyped and negative view of women; and 2) benevolent sexism (BS), of a positive affective tone, which transmits the view of women as weak creatures who must be protected and, at the same time, placed on a pedestal, where their "natural" roles of wife and mother are adored and from which they should not stray. HS and BS configure AS and are the targets of exploration and analysis in this study.

The review of the investigations that have analyzed differences as a function of gender, educational level, and age in HS and BS yields some contradictory results. Some studies have reported that men score significantly higher in HS and

BS (Feather & Boeckmann, 2007; Forbes, Collinsworth, Jobe, Braun, & Wise, 2007; Fowers & Fowers, 2010; Garaigordobil & Aliri, 2011a, 2011b; Lameiras & Rodríguez, 2003; Lameiras, Rodríguez, Calado, Foltz, & Carrera, 2006; Lee, Pratto, & Li, 2007; Pozo, Martos, & Alonso, 2010; Russell & Trigg, 2004; Travaglia, Overall, & Sibley, 2009; Viki, Abrams, & Hutchison, 2003; Wiener & Hurt, 2000). However, other investigations found no gender differences in BS (Chen, Fiske, & Lee, 2009; Expósito, Moya, & Glick, 1998; Glick, Sakalli-Ugurlu, Ferreira, & Aguiar de Souza, 2002; Lameiras, Rodríguez, Calado, Foltz, & González, 2006; Sakalli-Ugurlu, 2010; Sakalli-Ugurlu, Sila Yalcin, & Glick, 2007; Tasdemir & Sakalli-Ugurlu, 2010; Vaamonde, 2010), or else they found higher scores in men but only up to the age of 42 years (Lameiras, Rodríguez, & González, 2004).

Although few studies have analyzed the evolution of sexism, they have generally found an increase of sexism with age (Lameiras et al., 2004). Although scarce, the studies that have investigated the relations between sexism and educational level have usually found inverse relations between these variables (Glick, Lameiras, & Castro, 2002; Lameiras & Rodríguez, 2003).

The study has practical implications and is an advancement in the research on sexism. Its main contribution is related to the assessment of sexism, because in this work, norms are provided to interpret the results of the ASI in Spanish population, information which is not currently available. In order to provide norms, it is essential to be able to assess the level of sexism in the population, and this assessment allows the appraisal of the need to intervene to promote equality between the sexes, as well as the more relevant strategies. On the other hand, the results about the evolution of sexism with age are contradictory, and very few works have analyzed the relations between sexism and educational level. Therefore, the study also makes a contribution about these socio-demographic variables.

On the basis of the theory of ambivalent sexism and after reviewing the previous works, the main purpose of this study is to standardize the Ambivalent Sexism Inventory (ASI) in a sample from the Basque Country (Spain), in order to obtain normative data to assess sexism. With regard to this goal, the study will: 1) analyze gender differences in hostile sexism (HS), and benevolent sexism (BS); 2) determine whether there are changes in these forms of sexism from 14 to 70 years of age; 3) explore differences in sexism as a function of educational level; and 4) analyze the relations between the ASI scales and their factor structure. Within this context, 4 hypotheses are proposed: 1) women will score significantly lower in HS and BS; 2) HS, and BS will increase with age; 3) there will be inverse relations between HS and BS and educational level; and 4) correlations between HS and BS will be found, revealing the two structural factors found in the original test in the standardization sample of the Basque Country.

Method

Participants

The sample comprises 5313 participants from the Basque Country (Spain), aged between 14 and 70 years ($M= 36.10$, $SD= 13.94$), 2518 men (47.4%) and 2795 women (52.6%). The participants were distributed in 11 age ranges and 3 levels of studies (primary-secondary: up to age 16; high school-professional training: up to age 18; and university) (table 1). To obtain the representative sample of the Basque Country, the latest population survey presented by the Basque Statistical Institute was consulted, confirming a population of 2,162,944. With a .99 confidence level, a sample error of .018, for a population variance of .50, the representative sample comprises 5110 people. To select the sample, a stratified probability-proportional sampling technique was used. In this case, the population was divided into layers or subgroups as a function of their more notable characteristics or parameters: residence province, sex, age, and educational level.

Table 1

Frequency and percentage of men and women in each age group and educational level

Age	Men (n=2518)	Women (n=2745)	Up to age 16 (n= 1818)		Up to age 18 (n= 1812)		University (n= 1656)	
			Men (n=912)	Women (n=906)	Men (n=856)	Women (n=956)	Men (n=736)	Women (n=920)
14-18	415	391	44.2	40.4	0.9	1.9	0.5	0.8
19-23	233	462	2.2	1.4	18.1	30.2	7.9	17.3
24-28	157	163	2.9	1.5	9.0	7.4	7.2	8.4
29-33	198	213	3.6	3.2	9.7	8.8	10.9	10.9
34-38	200	212	4.6	4.5	7.9	8.6	12.2	9.5
39-43	242	366	7.1	10.5	11.2	13.2	10.6	15.5
44-48	434	489	12.3	13.1	18.1	15.9	22.4	23.3
49-53	381	275	11.1	11.0	15.9	8.6	19.2	10.0
54-58	177	149	6.6	8.4	7.0	4.0	7.3	3.6
59-63	60	55	4.1	3.9	1.4	1.3	1.5	0.9
64-70	21	20	1.4	2.0	0.7	0.2	0.3	0.0

Measures

Ambivalent Sexism Inventory (ASI, Glick, & Fiske, 1996) Spanish adaptation by Expósito et al. (1998). This instrument has 22 sentences, which are rated on a Likert scale ranging from 0 (*strongly disagree*) to 5 (*strongly agree*). The test measures ambivalent sexism (AS), which is made up of two dimensions: Hostile Sexism (HS, which basically coincides with the old sexism) and Benevolent Sexism (BS, understood as a series of sexist attitudes towards women inasmuch as women are considered in a stereotyped fashion and limited to certain roles). The psychometric studies of reliability of the instrument have revealed a high internal consistency (Cronbach's alpha) for AS ($\alpha= .90$) and its subscales (HS $\alpha= .89$; BS $\alpha=$

.86). In the present study, the internal consistency coefficients obtained in the entire sample point in the same direction (AS $\alpha = .91$; HS $\alpha = .86$; BS $\alpha = .90$), and those found in the sample by age range confirm these results (HS $\alpha =$ between .82 and .91; BS $\alpha =$ between .81 and .87; AS $\alpha =$ between .86 and .92). The validity studies of the ASI yielded significant correlations of AS with the Gender Ideology Scale, as well as with the Neosexism Scale (Tougas, Brown, Beaton, & Joly, 1995), with a higher magnitude for the HS subscale. Glick and Fiske (1996) presented six studies documenting the factor structure, convergent and discriminant validity, and predictive validity of the ASI scales. The six investigations reported provide strong support for the theory of ambivalent sexism and for the convergent, discriminant, and predictive validity of the ASI. Across five studies (involving men and women, undergraduates, and two nonstudent samples), factor analysis repeatedly confirmed the existence of BS and HS, both of which were reliably measured by the two ASI subscales. In all of the factor analyses, a full model (HS and BS, with three BS subfactors) significantly outperformed a one-factor (sexism) and a simple two-factor (no BS subfactors) model. The positive correlation repeatedly found between the HS and BS scales (with the important exception of men from the nonstudent samples) supports the claim that these two forms of sexism tend to be related aspects of sexist ideology. Whereas the HS scale showed convergent validity with other measures of sexism (and racism), the BS scale measured an aspect of sexism that many other researchers have apparently missed or have only indirectly tapped. Finally, three predictive validity studies showed that, for both men and women, total ASI scores are related to ambivalence toward women, and HS predicts negative attitudes toward and stereotypes about women. That BS represents a subjectively positive orientation toward women was indicated by the findings that, for nonstudent men, BS scores predicted positive overall attitudes toward and positive images of women. These latter findings, however, did not occur among male undergraduate and female respondents (in both student and nonstudent samples). It is worth noting that, although the ASI was initially developed with student samples, it showed its strongest predictive validity among men in the two nonstudent samples.

Procedure

Descriptive, comparative, correlational, and cross-sectional methodology was used. The ASI was administered between 2008 and 2010 by a team of 40 Psychology postgraduates. The assessors were previously trained in order to homogenize test administration, which lasted 15 minutes. The evaluators presented standardized instructions and handed out the questionnaires to the participants, who completed them. The ASI was administered individually. The evaluators, psychology postgraduates and PhDs, read the instructions out loud to each participant, and were available to clear up any doubts that could arise when completing the questionnaire. Both the instructions and the administration context was standard for all the participants (face-to-face interview format). The study met the ethical values required in research with human beings, respecting the fundamental principles included in the Declaration of Helsinki in its updates and

current regulations (informed consent and right to information, protection of personal data and guarantees of confidentiality, nondiscrimination, and freedom to leave the study at any stage) and was favorably assessed by the Ethical Committee of the Basque Country University (CUEID).

Statistical analyses

To analyze whether there are differences in sexism as a function of diverse psychosocial variables (sex, age, educational level) multivariate analysis of variance (MANOVA) and univariate analysis (ANOVA) were carried out. Complementarily, to study changes in sexism as a function of age, the Bonferroni's comparison of means in the 11 age ranges was conducted, and Spearman's correlation coefficients between sexism and educational level were calculated. On the other hand, the partial correlation coefficient between the diverse forms of sexism, controlling sex, age, and educational level were conducted. Finally, to examine the dimensionality of the inventory, a maximum likelihood factor analysis with varimax rotation and a confirmatory factor analysis (CFA) were performed. All analyses were carried out with SPSS 18.0, except the CFA that was conducted with EQS 6.1.

Results

Hostile and benevolent sexism: differences as a function of sex and age

The MANOVA revealed significant differences in sexism (HS and BS) as a function of sex, Wilks' $\lambda = .985$, $F(2, 5310) = 263.36$, $p < .001$ (medium effect size $\eta^2 = .090$, $r = .30$), and of age, Wilks' $\lambda = .941$, $F(20, 10604) = 16.42$, $p < .001$ (medium-low effect size $\eta^2 = .030$, $r = .17$). The sex*age interaction was also significant, Wilks' $\lambda = .993$, $F(20, 10582) = 1.88$, $p < .01$ (low effect size $\eta^2 = .004$, $r = .06$). The results (means, standard deviations, ANOVAs) obtained for HS and BS as a function of sex and age are shown in table 2.

In table 2, the ANOVA results show that women generally obtain lower scores than men in HS and BS. In HS, women score significantly lower in all age groups. However, there were no gender differences in BS from 34 to 38 years of age and from 54 to 70 years. The difference between men and women in HS was higher than the difference in BS.

The ANOVA results for HS, $F(10, 5302) = 15.27$, $p < .001$, and BS, $F(10, 5302) = 31.69$, $p < .001$, as a function of age were significant. To analyze changes in sexism as a function of age, Bonferroni's comparison of means in the 11 age ranges was carried out. The results for HS (table 2) confirm the significantly higher scores in the 14-18-year age range in comparison to the 19-58-year range; the scores were similar to those of age range 59-63, but lower than those of age range 64-70, where an increase in HS was observed. Thus, in HS, the scores at the first age range (14-18) are high, they decrease until range 8 (49-53), as of which they begin to increase at ranges 9 (54-58), 10 (59-63), and even more so at range 11 (64-70), exceeding the mean scores obtained at 14-18 years. The results in BS

follow the same pattern, high scores from 14 to 18 years, which decrease until range 9 (54-58 years), and begin to increase as of that age, reaching the highest score at age range 64-70 years. Therefore, the evolution of sexism (HS, BS) with age is not linear but curvilinear, with a U shape.

Table 2

Means, standard deviations and analysis of variance in hostile and benevolent sexism, in men and women, by age level

Age	Men (n)	Women (n)	Hostile sexism				Benevolent sexism			
			Men	Women	Total	F(1, 5311)	Men	Women	Total	F(1, 5311)
			M (SD)	M (SD)	M (SD)		M (SD)	M (SD)	M (SD)	
14-18	415	391	2.59 (0.95)	1.74 (0.92)	2.18 (1.03)	161.89***	2.41 (0.88)	2.21 (0.97)	2.31 (0.93)	9.44**
19-23	233	462	2.19 (1.07)	1.47 (0.90)	1.71 (1.02)	85.77***	1.92 (1.01)	1.63 (0.93)	1.72 (0.96)	13.93***
24-28	157	163	2.19 (1.16)	1.51 (0.99)	1.85 (1.12)	31.50***	1.96 (1.03)	1.58 (0.92)	1.77 (0.99)	11.49***
29-33	198	213	2.03 (1.11)	1.46 (0.97)	1.74 (1.08)	30.62***	1.90 (1.11)	1.55 (1.01)	1.72 (1.07)	10.99***
34-38	200	212	2.00 (1.18)	1.58 (1.04)	1.78 (1.13)	15.16***	1.79 (1.13)	1.68 (1.07)	1.73 (1.10)	0.98 ns
39-43	242	366	2.04 (1.18)	1.50 (1.08)	1.72 (1.15)	33.35***	1.86 (1.07)	1.54 (1.10)	1.67 (1.10)	12.02***
44-48	434	489	2.06 (1.26)	1.26 (0.98)	1.64 (1.19)	114.99***	1.80 (1.15)	1.35 (0.99)	1.56 (1.09)	39.60***
49-53	381	275	1.98 (1.21)	1.31 (1.03)	1.70 (1.18)	54.87***	1.84 (1.11)	1.52 (1.04)	1.71 (1.09)	13.91***
54-58	177	149	2.12 (1.25)	1.62 (1.03)	1.89 (1.18)	14.95***	2.02 (1.09)	1.84 (1.12)	1.94 (1.11)	2.16 ns
59-63	60	55	2.58 (1.14)	1.60 (1.03)	2.11 (1.19)	23.24***	2.38 (1.14)	2.10 (1.22)	2.24 (1.18)	1.60 ns
64-70	21	20	2.88 (1.06)	2.14 (0.80)	2.52 (1.00)	6.27*	2.80 (0.95)	2.69 (1.15)	2.75 (1.04)	0.11 ns
Total	2518	2795	2.17 (1.17)	1.49 (1.00)	1.81 (1.14)	524.35***	1.98 (1.09)	1.66 (1.05)	1.81 (1.08)	113.59***

Note: *** $p < .001$; ** $p < .01$; * $p < .05$; ns= nonsignificant.

Hostile and benevolent sexism: differences as a function of educational level

The MANOVA result of sexism analyzed globally (HS and BS) revealed significant differences with regard to educational level, Wilks' $\lambda = .921$, $F(4, 10564) = 111.11$, $p < .001$ (effect size $\eta^2 = .040$, $r = .20$). The sex*educational level interaction was also significant, Wilks' $\lambda = .997$, $F(4, 10558) = 4.15$, $p < .01$ (effect size $\eta^2 = .002$, $r = .04$). The descriptive analysis (table 3) and the ANOVA results show a significant decrease of all the types of sexism as the educational level increases, HS: $F(2, 5283) = 133.25$, $p < .001$; BS: $F(2, 5283) = 200.38$, $p < .001$. Bonferroni's comparison of means confirmed that people with university studies obtained significantly lower scores in sexism than those who have studied up to ages 16 and 18, respectively; and those who studied until the age of 18 obtained significantly lower scores than those who had studied until the age of 16. Complementarily, Spearman's correlation coefficients between sexism and educational level were calculated, finding negative relations ($p < .001$) between these variables, HS $r(5313) = -.22$; BS $r(5313) = -.26$.

Table 3

Means and standard deviations in hostile and benevolent sexism, in men and women, by educational level

Variable	n	Hostile Sexism			Benevolent Sexism		
		Men	Women	Total	Men	Women	Total
		M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Up to age 16	1818	2.52 (1.10)	1.71 (1.01)	2.11 (1.13)	2.34 (1.04)	2.02 (1.08)	2.18 (1.07)
Up to age 18	1812	2.11 (1.14)	1.50 (0.98)	1.79 (1.10)	1.91 (1.05)	1.60 (0.99)	1.75 (1.03)
University	1656	1.80 (1.18)	1.25 (0.96)	1.50 (1.10)	1.61 (1.06)	1.37 (0.98)	1.48 (1.02)

Structural analysis: inter-scale correlations and dimensionality

The partial correlation coefficient between the diverse forms of sexism, controlling sex, age, and educational level confirms significant positive correlations ($p < .001$) between HS and BS, $r(5313) = .49$, between HS and AS, $r(5313) = .86$, and between BS and AS, $r(5313) = .86$. The results ratify the correlations obtained with the original scale.

Table 4
Rotated factor matrix

ASI items	Factor 1	Factor 2
11. Women seek to gain power by getting control over men.	.713	.256
16. When women lose to men in a fair competition, they typically complain about being discriminated against.	.710	.199
14. Women exaggerate problems they have at work.	.673	.243
15. Once a woman gets a man to commit to her, she usually tries to put him on a tight leash.	.668	.235
5. Women are too easily offended.	.657	.226
10. Most women fail to appreciate fully all that men do for them.	.637	.336
21. Feminists are not making entirely reasonable demands of men.	.635	.231
7. Feminists are seeking for women to have more power than men.	.630	.196
18. There are not actually very few women who get a kick out of teasing men by seeming sexually available and then refusing male advances.	.587	.248
4. Most women interpret innocent remarks or acts as being sexist.	.583	.148
2. Many women are actually seeking special favors, such as hiring policies that favor them over men, under the guise of asking for "equality".	.580	.158
13. Men are not complete without women.	.132	.841
12. Every man ought to have a woman whom he adores.	.154	.838
1. No matter how accomplished he is, a man is not truly complete as a person unless he has the love of a woman	.158	.679
6. People are not often truly happy in life without being romantically involved with a member of the other sex.	.168	.629
9. Women should be cherished and protected by men.	.237	.536
20. Men should be willing to sacrifice their own well being in order to provide financially for the women in their lives.	.280	.512
17. A good woman should be set on a pedestal by her man.	.255	.495
8. Many women have a quality of purity that few men possess.	.264	.432
22. Women, as compared to men, tend to have a more refined sense of culture and good taste.	.271	.396
3. In a disaster, women ought to be rescued before men.	.146	.381
19. Women, compared to men, tend to have a superior moral sensibility.	.272	.324
% variance explained	34.0	8.44

Note: Extraction method: maximum likelihood.

To examine the dimensionality of the inventory, a maximum likelihood factor analysis was performed. Before performing factor analysis, Kaiser-Meyer-Olkin's sample adequacy measurement (KMO) and Bartlett's sphericity test were calculated. The KMO index had a value of 0.94, which can be considered very adequate, and Bartlett's test was statistically significant, $\chi^2(1596) = 47.493,31$, $p < .001$. Results yielded two factors with eigenvalues higher than 1, which explain 42.46% of the total variance. Considering 0.30 as the cut-off point, the loadings

obtained in the two factors were very clear for the items that form them. Only Item 10 presented cross-validations for the 2 factors. Table 4 shows that the first factor has 11 items of hostile sexism, and the second factor has 11 items of benevolent sexism, which explain 34.0 and 8.4% of the variance, respectively. These results ratify those obtained with the original scale.

Confirmatory factor analysis

Using confirmatory factor analysis (CFA) the fit of the two-factor model was examined, and it did not fit well statistically, $\chi^2= 5407.67$ (208), $p < .000$, CFI= .890, NNFI= .878. The model had a RMSEA of .070, the 90% confidence interval of the RMSEA was adequate (C.I: .069 - .072), and SRMR was .050. The internal consistency values of both subscales were good (HS= .86, BS= .90; AS= .91). Overall, the fit indices suggested a poor fit of the model. NNFI and CFI indicated that the model did not fit the data well, although both indices were very near the respective cutoff values.

Standardization of the ASI: norms by sex and age group

After the prior analyses, the ASI norms that allow transformation of raw HS and BS scores into percentiles were elaborated in order to interpret the level of sexism, comparing the person being assessed with his or her normative reference group (tables 5 and 6).

Discussion

Firstly, the results confirm that, in general, women score significantly lower than men in HS and BS. In HS, these differences were observed in all the age groups. In BS, there were no gender differences from 34 to 38 years and from 54 to 70 years. These results ratify Hypothesis 1, and confirm those obtained in other studies that have found lower HS and BS scores in women (Feather & Boeckmann, 2007; Forbes et al., 2007; Fowers & Fowers, 2010; Lameiras & Rodríguez, 2003; Lee et al., 2007; Pozo et al., 2010; Russel & Trigg, 2004; Travaglia et al., 2009; Viki et al., 2003; Wiener & Hurt, 2000).

However, these results contradict the works that found no gender differences in BS (Chen et al., 2009; Expósito et al., 1998; Glick, Sakalli-Ugurlu et al., 2002; Sakalli-Ugurlu, 2010; Sakalli-Ugurlu et al., 2007; Tasdemir & Sakalli-Ugurlu, 2010; Vaamonde, 2010), although they point in a similar direction as the studies that found that the gender differences in BS decrease as age increases (Lameiras et al., 2004). The differences with the studies that found no gender differences in BS may be explained by the participants' different ages and also because of the cultural differences of the samples, as variations in the level of sexism have been observed as a function of the cultural characteristics of diverse countries. In this study, it was also confirmed that the difference between men and women in HS is higher than the difference in BS, ratifying the findings of other investigations (Glick & Fiske, 1996).

Table 5
Transformation of raw scores into percentile scores in hostile sexism at different age levels by sex

PC	14-18		19-23		24-28		29-33		34-38		39-43		44-48		49-53		54-58		59-63		64-70			
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W		
1	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.36	
5	0.91	0.27	0.27	0.09	0.25	0.09	0.09	0.09	0.18	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.18	0.23	0.64	0.07	0.64	0.49	0.37	
10	1.36	0.55	0.67	0.27	0.73	0.22	0.45	0.22	0.36	0.27	0.36	0.09	0.27	0.18	0.36	0.09	0.44	0.36	0.83	0.36	0.83	0.91	0.48	
15	1.55	0.73	1.00	0.45	0.88	0.36	0.64	0.36	0.56	0.45	0.73	0.28	0.55	0.27	0.64	0.27	0.64	0.50	1.36	0.58	1.36	1.46	0.89	
20	1.82	0.82	1.18	0.64	1.09	0.64	0.98	0.45	0.91	0.55	0.82	0.45	0.82	0.36	0.82	0.27	0.91	0.64	1.65	0.65	1.65	1.95	1.82	
25	2.00	1.00	1.50	0.73	1.36	0.73	1.18	0.68	1.00	0.82	1.16	0.55	1.09	0.45	1.00	0.45	1.09	0.73	1.91	0.73	1.91	2.18	1.84	
30	2.09	1.18	1.64	0.91	1.45	0.82	1.36	0.82	1.27	0.91	1.27	0.82	1.27	0.55	1.18	0.64	1.31	0.82	2.00	0.96	2.00	2.42	1.94	
35	2.27	1.36	1.91	1.00	1.66	0.95	1.55	0.91	1.36	1.00	1.55	0.91	1.48	0.64	1.34	0.73	1.55	0.91	2.18	1.00	2.18	2.84	2.06	
40	2.36	1.45	2.00	1.18	1.84	1.09	1.82	1.00	1.55	1.18	1.73	1.00	1.73	0.82	1.55	0.82	1.73	1.18	2.45	1.18	2.45	3.07	2.18	
45	2.45	1.64	2.09	1.36	2.09	1.36	1.96	1.18	1.73	1.35	1.91	1.20	1.91	0.91	1.73	1.00	1.91	1.41	2.45	1.41	2.45	3.09	2.22	
50	2.64	1.73	2.18	1.36	2.18	1.45	2.09	1.36	1.91	1.41	2.09	1.45	2.09	1.00	2.00	1.09	2.09	1.55	2.64	1.36	2.64	3.18	2.32	
55	2.73	1.91	2.36	1.55	2.36	1.55	2.27	1.52	2.18	1.64	2.27	1.55	2.20	1.18	2.18	1.27	2.27	1.64	2.73	1.55	2.73	3.28	2.41	
60	2.82	2.00	2.45	1.71	2.45	1.73	2.45	1.73	2.45	1.73	2.45	1.65	2.36	1.36	2.36	1.45	2.53	1.82	2.82	1.87	2.82	3.38	2.45	
65	2.91	2.09	2.64	1.82	2.64	1.82	2.55	1.91	2.64	1.91	2.55	1.91	2.55	1.55	2.55	1.64	2.73	2.09	2.97	1.95	2.97	3.48	2.57	
70	3.09	2.27	2.80	1.91	2.78	2.00	2.73	2.00	2.82	2.09	2.74	2.18	2.73	1.73	2.73	1.82	2.91	2.36	3.22	2.18	3.22	3.58	2.64	
75	3.27	2.45	3.00	2.09	3.00	2.27	2.82	2.27	3.00	2.34	2.91	2.36	2.91	1.95	2.86	1.91	3.00	2.55	3.27	2.27	3.27	3.64	2.64	
80	3.36	2.45	3.09	2.27	3.36	2.45	3.00	2.36	3.18	2.55	3.18	2.55	3.18	2.18	3.00	2.18	3.31	2.64	3.53	2.36	3.53	3.69	2.64	
85	3.64	2.73	3.27	2.45	3.55	2.64	3.20	2.55	3.44	2.73	3.36	2.64	3.55	2.36	3.27	2.42	3.45	2.82	4.04	3.02	4.04	3.79	2.87	
90	3.82	3.09	3.51	2.64	3.73	2.93	3.46	2.78	3.64	3.18	3.55	2.91	3.82	2.73	3.64	2.85	3.84	3.00	4.09	3.25	4.09	4.04	2.91	
95	4.18	3.36	3.91	2.99	4.09	3.35	3.91	3.21	3.90	3.58	3.90	3.51	4.36	3.18	4.18	3.36	4.27	3.50	4.71	3.65	4.71	4.34	3.43	
N	4.62	3.82	4.79	3.82	4.86	4.04	4.28	3.97	4.36	4.08	4.96	4.42	4.91	3.84	4.82	4.23	4.86	4.18	4.73	3.73	4.73	4.36	3.45	
M	4.15	3.91	2.33	4.62	1.57	1.63	1.98	2.13	2.00	2.12	2.42	3.66	4.34	4.89	3.81	2.75	1.77	1.49	60	55	21	20		
M	2.59	1.74	2.19	1.47	2.19	1.51	2.03	1.46	2.00	1.58	2.04	1.50	2.06	1.26	1.98	1.31	2.12	1.62	2.58	1.60	2.58	1.60	2.88	2.14
SD	0.95	0.92	1.07	0.90	1.16	0.99	1.11	0.97	1.18	1.04	1.18	1.08	1.26	0.98	1.21	1.03	1.25	1.03	1.14	1.03	1.14	1.06	0.80	

Note: M= Men; W= Women.

Table 6
Transformation of raw scores into percentile scores in benevolent sexism at different ages levels by sex

PC	14-18		19-23		24-28		29-33		34-38		39-43		44-48		49-53		54-58		59-63		64-70			
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W		
1	0.29	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.73	0.82	
5	0.73	0.60	0.27	0.27	0.26	0.20	0.09	0.09	0.06	0.18	0.00	0.09	0.00	0.00	0.18	0.09	0.09	0.18	0.09	0.18	0.46	0.35	0.81	0.83
10	1.15	0.82	0.45	0.45	0.53	0.55	0.27	0.31	0.28	0.45	0.36	0.18	0.36	0.18	0.36	0.27	0.36	0.45	0.82	0.51	0.82	0.51	1.56	1.09
15	1.36	1.00	0.73	0.64	0.73	0.69	0.45	0.55	0.47	0.55	0.64	0.36	0.55	0.36	0.57	0.40	0.91	0.55	1.01	0.67	1.01	0.67	1.66	1.13
20	1.55	1.36	0.91	0.82	0.91	0.82	0.73	0.64	0.73	0.73	0.82	0.49	0.73	0.45	0.82	0.55	1.09	0.73	1.27	0.85	1.27	0.85	1.76	1.38
25	1.82	1.55	1.09	0.91	1.18	0.91	0.91	0.73	0.84	0.82	1.00	0.64	0.82	0.55	0.95	0.64	1.18	1.00	1.59	1.00	1.59	1.00	1.86	1.45
30	2.00	1.64	1.36	1.00	1.45	1.00	1.25	0.91	1.09	0.99	1.09	0.82	1.00	0.73	1.18	0.82	1.40	1.18	1.91	1.33	1.91	1.33	2.18	1.67
35	2.18	1.82	1.45	1.09	1.55	1.13	1.45	1.00	1.27	1.09	1.28	0.91	1.18	0.82	1.27	0.91	1.55	1.36	1.94	1.55	2.43	2.43	2.21	2.21
40	2.27	2.00	1.64	1.27	1.73	1.18	1.64	1.09	1.40	1.20	1.56	1.09	1.36	0.91	1.45	1.09	1.82	1.45	2.09	1.64	2.67	2.67	2.42	2.42
45	2.36	2.09	1.82	1.36	1.91	1.36	1.87	1.27	1.59	1.36	1.73	1.18	1.45	1.05	1.64	1.27	1.91	1.55	2.22	1.91	2.73	2.73	2.68	2.68
50	2.45	2.27	2.00	1.64	2.00	1.45	2.00	1.45	1.73	1.45	1.86	1.45	1.64	1.18	1.82	1.45	2.00	1.73	2.27	1.91	3.18	3.18	2.86	2.86
55	2.64	2.45	2.18	1.73	2.17	1.55	2.18	1.55	1.87	1.73	2.00	1.55	1.82	1.27	1.91	1.55	2.18	1.91	2.45	2.00	3.27	3.27	3.00	3.00
60	2.73	2.55	2.27	1.89	2.35	1.64	2.18	1.73	2.00	1.89	2.25	1.73	2.00	1.45	2.09	1.64	2.27	2.00	2.60	2.27	3.29	3.29	3.27	3.27
65	2.82	2.64	2.36	2.09	2.45	1.78	2.30	1.82	2.09	2.09	2.36	1.91	2.18	1.55	2.36	1.82	2.45	2.18	2.82	2.67	3.39	3.39	3.45	3.45
70	2.91	2.73	2.55	2.18	2.60	1.98	2.64	2.09	2.36	2.19	2.45	2.09	2.45	1.73	2.45	2.02	2.55	2.36	3.09	2.84	3.49	3.49	3.71	3.71
75	3.00	2.82	2.64	2.36	2.68	2.18	2.82	2.23	2.55	2.43	2.55	2.27	2.73	1.91	2.59	2.27	2.82	2.64	3.27	3.00	3.55	3.55	3.82	3.82
80	3.18	3.00	2.82	2.45	2.82	2.29	3.00	2.55	2.80	2.73	2.82	2.45	3.00	2.27	2.82	2.44	2.91	2.82	3.36	3.33	3.60	3.60	3.89	3.89
85	3.33	3.18	2.91	2.73	3.00	2.73	3.18	2.72	3.08	2.91	3.09	2.73	3.16	2.55	3.09	2.73	3.09	3.09	3.82	3.64	3.76	3.76	3.99	3.99
90	3.49	3.45	3.29	2.91	3.18	3.00	3.36	3.15	3.36	3.27	3.27	3.03	3.45	2.82	3.36	3.04	3.56	3.55	3.99	3.82	4.08	4.08	4.31	4.31
95	3.75	3.82	3.64	3.27	3.65	3.44	3.73	3.27	4.00	3.64	3.71	3.79	3.84	3.23	3.82	3.45	3.91	3.91	4.27	4.40	4.31	4.40	4.26	4.26
99	4.18	4.64	4.09	3.82	4.64	4.22	4.36	4.31	4.64	4.43	4.32	4.36	4.55	4.20	4.47	4.29	4.61	4.64	4.36	4.55	4.36	4.55	4.36	4.27
N	415	391	233	462	157	163	198	213	200	212	242	366	434	489	381	275	177	149	60	55	21	20	20	20
M	2.41	2.21	1.92	1.63	1.96	1.58	1.90	1.51	1.79	1.68	1.86	1.54	1.80	1.35	1.84	1.52	2.02	1.84	2.38	2.10	2.80	2.80	2.69	2.69
SD	0.88	0.97	1.01	0.93	1.03	0.92	1.11	1.01	1.13	1.07	1.07	1.10	1.15	0.99	1.11	1.04	1.09	1.12	1.14	1.22	1.22	0.95	1.15	1.15

Note: M= Men; W= Women.

Secondly, the analysis of the evolution of sexism (HS and BS) with age shows a U-shaped evolution. From 14 to 18 years of age, there is a high score and from that age, a progressive decrease is observed until the age of 54 years. At the age of 54 years, sexism begins to increase and at 59 years of age, high scores are confirmed (similar to those at 14-18 years). Subsequently, between ages 64 to 70 years, there is a greater increase in scores, displaying the highest score at that developmental moment. Therefore, Hypothesis 2 is not confirmed, as the increase of sexism with age is not linear. These results are coherent with the findings of Lameiras et al. (2004) who, in a study with people from 18 to 65 years old, also found increases as of age 42, with the highest scores from 58 to 65 years. The high sexism score from 14 to 18 years of age is surprising, taking into account the social conquests in the past few decades with regard to equality. This increase suggests various explanations and could be related to: 1) the processes of psychosocial identification that occur at this developmental stage; and/or 2) the fact that the new generations are not very aware of the conquests in favor of gender equality and they adopt more traditional and sexist roles, influenced by the models they observe in the world of publicity, fashion, Internet, video-games, pornography...

Thirdly, the results show a significant decrease of all types of sexism (HS and BS) as educational level increases, which ratifies Hypothesis 3, and confirms the results obtained in other works (Lameiras & Rodríguez, 2003). These results underline the importance of promoting training and academic development to eliminate sexist attitudes and prejudices. The results suggest that education can transform society; however, despite the university training of many men and women, the traditional sexist models and gender stereotypes are frequently reproduced in society and at home. The models observed in the family context and the parents' education styles have great influence on the sexist attitudes that are learned during childhood and adolescence (Garaigordobil & Aliri, 2011b, 2012), as do the models observed at school and in the social setting. Therefore, promoting equality between the sexes requires carrying out multidirectional interventions that enhance egalitarian behaviors in the family, at school, and in society (publicity, videogames, internet...).

Lastly, the results confirmed the positive relations between HS and BS, in the same direction as numerous studies (Lameiras et al., 2004; Russell & Trigg, 2004; Sakalli-Ugurlu, 2010; Viki et al., 2003), and they ratify the existence of two clearly differentiated factors, confirming the factor structure of the original scale. Therefore, Hypothesis 4 is ratified.

As HS and BS are complementary, they are prevalent ideologies in diverse cultures, and both of them predict gender inequality (Glick & Fiske, 2001), the importance of implementing educational and community intervention strategies can be underlined in order to eradicate sexism and promote gender equality. Moreover, the decrease of cognitive biases about women's inferiority would play a positive role in the prevention of gender violence.

As a limitation, the study only uses one sample from the Basque Country. Among future lines of research, the construction of norms with Spanish samples and from other countries is suggested to compare and identify cultural variables

that favor the decrease of sexist ideologies and promote gender equality. In addition, the results of the CFA indicate a poor fit, which shows the need to study the structural model of the ASI in more depth.

The main contribution of this work is the standardization of the ASI and the construction of norms for this tool, which is extensively and internationally employed to assess sexism. The results obtained in the study are very useful because the availability of norms allows transforming raw scores into percentiles. People can thus be placed in their normative reference group with regard to these two types of sexism, and their position within the normative group about this construct can be appraised. From the theoretical viewpoint, scores that correspond to percentiles below 20 are interpreted as low, and scores that are above 80 are considered high.

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