




# Cultural Differences in the Perception of (Self-)sexualizing Instagram Content and Their Associations with Sexism and Self-sexualization Tendencies: Evidence from Six Countries

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## Abstract

The use of social networking sites is associated with objectification tendencies of the self and others. However, only few studies investigate how users actually perceive sexualizing content on Instagram. In a recent study, we showed that perceiving sexy Instagram posts as appropriate and less revealing goes along with self-sexualization in German participants and that Instagram users tend to be more sexist than non-users. The present study aimed to replicate these findings in a cross-nations study to test for cultural differences. We asked  $N=2055$  persons from six different countries (Germany, Spain, United States, Italy, Turkey, and South Africa) to rate sexy Instagram posts with respect to revealing clothing, appropriateness, and attractiveness and collected self-report data on sexism, enjoyment of sexualization, and Instagram usage behavior. Our results show associations between the perception of the presented posts as appropriate, sexism, and self-sexualizing tendencies in all countries. Strength of the associations are mainly the same across all countries. Participants from Spain, the U.S., and Italy reported the lowest sexism scores and the most liberal ratings for the presented photos. We find no substantial main effect of mere Instagram use on sexism or photo ratings. The results suggest that Instagram use does not necessarily alter the perception of sexualized stimuli, but that greater appreciation of self-sexualizing others goes along with self-sexualization. This effect seems to be culturally invariant. The found mean differences between countries are plausible, but future studies should aim to obtain representative samples to allow serious assumptions about cultural effects.

**Keywords** Instagram · Self-sexualization · Ambivalent sexism · Enjoyment of sexualization · Social media

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## Introduction

Engagement with Social Networking Sites (SNS) shows consistent associations with higher levels of sexualization and objectification of individuals (e.g. Peluchette & Karl, 2009; Ward et al., 2016). This seems to be particularly true for Instagram as it is a SNS that is mainly based on visual content such as photos and reels (short videos). According to objectification theory (Fredrickson & Roberts, 1997), such objectified views can lead to self-objectification tendencies once a person adopts a third-person view on its outer appearance. The effects of the overall use of SNS like Facebook and Instagram on variables related to objectification such as body image concerns (e.g. Fardouly et al., 2018; Manago et al., 2015; Meier & Gray, 2014; Vandenbosch & Eggermont, 2012) or internalization of beauty standards (Feltman & Szymanski, 2018) have been studied quite well (for a more detailed review of the literature see Plieger et al., 2021). These effects are particularly apparent in female SNS users which is likely due to the fact that the sexualization and objectification of the female body happens often both in classic media (e.g., TV) and online social media platforms.

In contrast, only few studies have investigated the question, how objectifying content is actually perceived by SNS users and which factors may influence the way people perceive sexualized social media content. Recent studies found that people who present themselves in a self-sexualizing way or edit their photos (e.g. by the use of filters) on their social media accounts are perceived as being less competent, intelligent, and attractive (Daniels & Zubriggen, 2016; Vendemia & DeAndrea, 2018) although there is also evidence to the contrary (Kleemans et al., 2018).

In a recent study, we investigated whether Instagram usage and both the perception of self-sexualizing content as well as the readiness to post self-sexualizing content is associated with ambivalent sexism (Plieger et al., 2021). The theory of ambivalent sexism by Glick and Fiske (2001, 2011) posits two different types of sexism namely benevolent (BS) and hostile sexism (HS). Although there has been an extension of the theory that also includes sexist attitudes towards men, it was initially set up to explain sexism toward women, which we also focus on in the present study. The distinction between a hostile and a benevolent dimension does justice to the fact that men face the conflict of seeing women as competitors but also as beings to be cared for. Glick and Fiske (2011) themselves refer to it as a double-sided coin rather than two different constructs which is why BS and HS are typically moderately correlated. Whereas HS emphasizes the beliefs of women being a threat to male privileges and power (e.g., co-workers, feminists), BS puts its focus on women being fragile and affectionate and that they should be protected and cared for by men (e.g., wife, little sister).

In our previous study, we found that German Instagram users held more sexist attitudes than non-users. We also found small, but significant effects with respect to the evaluation of self-sexualizing depictions of others. Furthermore, female Instagram users who perceived self-sexualizing photos of others as more appropriate, more attractive and less revealing reported to be more willing to post

self-sexualizing photos themselves and had higher scores in enjoyment of sexualization. Similarly, women with more pronounced benevolent sexist attitudes toward women showed a stronger motivation to post sexy photos of themselves and scored higher on enjoyment of sexualization (see Plieger et al., 2021).

## Present study

The aim of the present study is to extend these findings to other countries and to look for cultural differences to get a more accurate understanding of the association between sexism and the usage of SNS. In order to do so, we collected data in Germany, Spain, the United States, Turkey, Italy, and the Republic of South Africa.

Early studies investigating cross-cultural differences in ambivalent sexism have shown that there are cultural differences in the extent of sexism and inter-scale associations (Glick et al., 2000). Glick et al. (2000) also found that male sexism predicted female sexism suggesting that women might adopt system justifying attitudes. Thus, the societal system of a country is likely to play a role in gender role stereotypes and sexism. For example, Spain has undergone some important legal and societal changes within the last decades that can be considered liberal (Chaqués Bonafont et al., 2012; Kantola & Lombardo, 2019). According to Kantola and Lombardo (2019), a left political ideology is more supportive of gender equality and women's rights, although informal practices seem to stick to patriarchic structures. Furthermore, intimate partner violence against women seems to be considerably low in Spain compared to other countries (e.g., Sweden: Gracia et al., 2019). With respect to sexuality, Spanish young adults have been shown to hold more liberal attitudes than Germans (Kaspar et al., 2016) or U.S. Americans (Negy et al., 2016). Consequently, one would expect lower mean sexism scores in countries like Spain as compared to other countries in which gender equality issues are less salient in the public discourse. In fact, Inguanzo et al. (2021) found lower sexism scores in Spanish participants (compared to Germany, UK and the US) in a recent study. It is conceivable that these differences go along with Instagram usage and the possibly associated exposure to sexualized content. Thus, cultural differences in sexism and traditional gender role norms might be partly reflected in different usage behavior of SNS, e.g. in terms of self-presentation because (self-) objectification is believed to be driven by the internalization of cultural standards (see Feltman & Szymanski, 2018). In fact, Wenninger et al. (2019) reported that German Facebook users showed a stronger tendency toward self-enhancement compared to participants from Hong Kong. Similarly, Lee-Won et al. (2014) showed that US students engaged in self-presentation behavior on Facebook more than students in South Korea did. Further evidence suggests that the motive of self-presentation for the use of Instagram is more present in US American participants as compared to Instagram users in Croatia (Sheldon et al., 2017) and that US American SNS users are more entertainment seeking, whereas Korean participants users report to be looking for social support on SNS (Kim et al., 2011). Consequently, there might be not only cultural differences in self-presentation, but also in how users perceive others presenting themselves in a sexually revealing way.

In the present study, we want to look for differences in sexism between different countries and test whether these differences will go along with differences in the perception of sexualizing Instagram content and Instagram usage.

Specifically, we wanted to test across different countries whether Instagram users would be more sexist than non-users and whether they would rate sexualized Instagram posts in a more liberal way (i.e. as less revealing, more appropriate and more attractive) than Instagram non-users. Furthermore, we wanted to investigate whether the Instagram photo ratings of sexualized others would differ between the different countries and whether these ratings would be associated with sexism and own self-sexualizing posting behavior.

## Materials and Methods

### Participants & Procedure

We recruited convenient samples in six different countries. In each country, one of the authors, who at least temporarily lived there, advertised the study. Participants were recruited by advertisements on social media platforms and by distributing the link to the questionnaire to friends who were asked to further share the questionnaire. We decided to exclude  $n=27$  persons who identified themselves as being neither male nor female since this group was too small to allow reliable analyses. The remaining total sample was  $N=2055$  ( $n=580$  males,  $n=1475$  females).  $N=1616$  ( $n=510$  public profile,  $n=1106$  private profile) reported to own an Instagram account. Sample characteristics for each country are displayed in Table 1. Of note, the German sub-sample comprises the same participants as already described in our recent publication (Plieger et al., 2021).

Participation in the study was anonymous. All participants gave written informed consent to participate in the study after having received the study information. First, the participants provided demographic information and information about their Instagram usage. Next, all participants rated screenshots of Instagram posts, which was followed by several questionnaires (see below). At the end of the questionnaire, participants in all countries had the opportunity to take part in a raffle for Amazon vouchers. All questionnaires were presented in the native language of the respective country, but were mostly identical apart from that. The educational level had to be adapted to the degrees of each country. Furthermore, the Turkish and South African versions included several specific items that were not of relevance for the present study.

### Instagram Usage and Photo Ratings

To measure how participants perceive and evaluate other persons presenting themselves in a sexy way, we let our participants rate 20 Instagram photos (10 males and 10 females) of attractive persons in a randomized order on three dimensions. The rating dimensions were as follows: sexual revealingness of clothing, whether or not

**Table 1** Descriptive sample characteristics (M, SD) for all countries and tests for differences

	Germany N = 916	Spain N = 443	USA N = 179	Italy N = 191	Turkey N = 222	South Africa N = 104	Test of significance
Age	27.00 (9.91) <sup>Sp,ULT</sup>	22.66 (6.43) <sup>G,LTSA</sup>	24.69 (11.24) <sup>G,LT</sup>	29.62 (11.21) <sup>G,Sp,U</sup>	30.99 (11.75) <sup>G,Sp,U</sup>	27.82 (7.013) <sup>Sp</sup>	$F_{5,2049} = 29.82,$ $p < 0.001, \eta^2 = 0.068$
Gender women/men (% women)	680/236 (74.2%)	313/130 (70.7%)	142/37 (79.3%)	144/47 (75.4%)	131/91 (59.0%)	65/39 (62.5%)	$\chi^2 = 31.57, p < 0.001,$ $df = 5$
religiosity	1.96 (0.89) <sup>Sp,TSA</sup>	1.71 (0.79) <sup>G,TSA</sup>	1.87 (1.04) <sup>TSA</sup>	1.94 (0.99) <sup>SA</sup>	2.18 (1.15) <sup>G,Sp,U,USA</sup>	2.84 (1.36) <sup>G,Sp,U,LT</sup>	$F_{5,2049} = 26.40,$ $p < 0.001, \eta^2 = 0.061$
Sexual orientation	6.09 (1.52) <sup>Sp,U</sup>	5.67 (1.72) <sup>G,UT</sup>	4.76 (2.00) <sup>G,Sp,LT,USA</sup>	5.87 (1.91) <sup>UT</sup>	6.38 (1.39) <sup>Sp,U,USA</sup>	5.50 (2.18) <sup>U,LT</sup>	$F_{5,2049} = 24.99,$ $p < 0.001, \eta^2 = 0.057$
Life satisfaction	7.29 (1.79) <sup>U,LT,USA</sup>	7.17 (1.63) <sup>U,TSA</sup>	6.77 (1.75) <sup>G</sup>	6.54 (1.75) <sup>G,Sp</sup>	6.36 (2.29) <sup>G,Sp</sup>	6.70 (1.73) <sup>G</sup>	$F_{5,2049} = 14.76,$ $p < 0.001, \eta^2 = 0.035$
Political self-place- ment	3.16 (1.13) <sup>Sp,UT</sup>	2.79 (1.53) <sup>G,UT,USA</sup>	2.12 (1.19) <sup>G,Sp,LT,USA</sup>	3.07 (1.51) <sup>UT</sup>	3.57 (1.93) <sup>G,Sp,U,LI</sup>	3.56 (1.52) <sup>Sp,U</sup>	$F_{5,2049} = 29.43,$ $p < 0.001, \eta^2 = 0.067$
Hostile sexism	2.69 (1.01) <sup>Sp,ULT</sup>	2.02 (1.01) <sup>G,UT,USA</sup>	1.54 (0.77) <sup>G,Sp,LT,USA</sup>	2.17 (1.01) <sup>G,UT,USA</sup>	3.18 (1.16) <sup>G,Sp,U,USA</sup>	2.79 (1.12) <sup>Sp,U,LT</sup>	$F_{5,2049} = 83.39,$ $p < 0.001, \eta^2 = 0.169$
Benevolent sexism	2.78 (0.92) <sup>Sp,ULT</sup>	1.97 (0.86) <sup>G,LT,USA</sup>	1.82 (0.76) <sup>G,LT,USA</sup>	2.53 (1.01) <sup>G,Sp,U,USA</sup>	3.44 (1.07) <sup>G,Sp,U,USA</sup>	3.00 (0.94) <sup>Sp,ULT</sup>	$F_{5,2049} = 113.88,$ $p < 0.001, \eta^2 = 0.217$
ESS (only female subsamples)	3.54 (0.90) <sup>Sp,LT</sup>	3.16 (0.87) <sup>G,USA</sup>	3.45 (0.93) <sup>Sp,T</sup>	3.19 (1.02) <sup>G</sup>	3.05 (1.05) <sup>G,USA</sup>	3.56 (0.78) <sup>Sp,T</sup>	$F_{5,1469} = 12.82,$ $p < 0.001, \eta^2 = 0.042$
Photo rating: reveal- ingness	5.04 (0.83) <sup>Sp,U,LT,USA</sup>	4.44 (1.09) <sup>G,LT</sup>	4.55 (1.01) <sup>G,LT</sup>	3.85 (1.18) <sup>G,Sp,U,USA</sup>	5.39 (1.10) <sup>G,Sp,U,USA</sup>	4.50 (0.97) <sup>G,LT</sup>	$F_{5,2049} = 84.83,$ $p < 0.001, \eta^2 = 0.171$
Photo rating: appro- priateness	3.90 (0.92) <sup>Sp,U,LT,USA</sup>	4.66 (1.04) <sup>G,T</sup>	4.76 (1.08) <sup>G,T</sup>	4.87 (0.90) <sup>G,T</sup>	4.27 (1.37) <sup>G,Sp,U,LI</sup>	4.60 (1.10) <sup>G</sup>	$F_{5,2049} = 59.03,$ $p < 0.001, \eta^2 = 0.126$
Photo rating: attrac- tiveness	3.67 (0.88) <sup>Sp,U,LT,USA</sup>	4.63 (0.88) <sup>G,LT</sup>	4.67 (0.86) <sup>G,LT</sup>	4.37 (0.98) <sup>G,Sp,U,LT</sup>	4.08 (1.29) <sup>G,Sp,U,USA</sup>	4.62 (0.98) <sup>G,T</sup>	$F_{5,2049} = 88.62,$ $p < 0.001, \eta^2 = 0.178$
Instagram yes/no (% yes)	662/254 (72.3%)	354/89 (79.9%)	158/21 (88.3%)	156/35 (81.7%)	193/29 (86.9%)	93/11 (89.4%)	$\chi^2 = 49.77, p < 0.001,$ $df = 5$

**Table 1** (continued)

Instagram usage	Germany N = 662	Spain N = 354	USA N = 158	Italy N = 156	Turkey N = 193	South Africa N = 93	Test of significance
Instagram profile public/private (% public)	223/439 (33.7%)	86/268 (24.3%)	50/108 (31.6%)	72/84 (46.2%)	40/153 (20.7%)	39/54 (41.9%)	$\chi^2 = 40.55, p < 0.0001, df = 5$
No. of followers	478.71 (23.55.97)	594.49 (894.29)	1903.11 (17465.89)	920.65 (3782.07)	465.20 (986.12)	940.24 (1825.01)	$F_{5,1609} = 1.70, p = 0.131, \eta^2 = 0.005$
Time spent on Instagram	50.29 (76.77) <sup>Sp,USA</sup>	102.32 (141.86) <sup>G</sup>	118.45 (215.41) <sup>G</sup>	79.10 (122.27)	80.60 (116.05)	127.32 (169.10) <sup>G</sup>	$F_{5,1273} = 11.74, p < 0.0001, \eta^2 = 0.044$
Post/story within last 7 days (%yes)	350/312 (52.9%)	249/105 (70.3%)	76/82 (48.1%)	106/50 (67.9%)	125/68 (64.8%)	50/43 (53.8%)	$\chi^2 = 45.77, p < 0.0001, df = 5$
Likelihood of self-aexualizing post	1.62 (0.87) <sup>Sp,U</sup>	1.98 (1.02) <sup>G,IT</sup>	2.02 (1.07) <sup>G,IT</sup>	1.50 (0.73) <sup>Sp,U</sup>	1.60 (0.95) <sup>Sp,U</sup>	1.79 (1.02)	$F_{5,1609} = 12.59, p < 0.0001, \eta^2 = 0.038$

Superscripts indicate that mean value is significantly different to sample from Germany (G), Spain (Sp), USA (U), Italy (I), Turkey (T), South Africa (SA). All post-hoc tests Bonferroni corrected to  $\alpha \leq 0.008$

the photo is appropriate to be shared on Instagram, and attractiveness of the presented photo. All dimensions were rated on a 7-point Likert scale.

We used the same procedure as in Plieger et al. (2021), where a more detailed description of the picture selection process is provided. Of note, the number of photos was reduced from 28 to 20 in the current study for time economic reasons.

With respect to the use of Instagram, we asked our participants whether they had a personal Instagram account. If the answer was yes, we asked whether the profile was private (i.e., posts are only visible to followers who have to be acknowledged by the owner of the profile) or public (i.e., anyone on Instagram can see the posts of the respective person) and how many followers they had. We furthermore asked for the time spent on Instagram as well as posting activity (stories, posts) within the last 7 days (see Table 1).

## Sexism

We measured sexism using the Ambivalent Sexism Inventory (ASI; Glick & Fiske, 1996). It comprises the two subscales benevolent sexism (BS) and hostile sexism (HS) that are both constituted by 11 items. The items are answered on a 6-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (6). Internal consistencies (Cronbach’s alpha) for HS ranged between  $\alpha=0.917$  (Turkey) and  $\alpha=0.944$  (Italy). For BS, internal consistencies ranged between  $\alpha=0.831$  (South Africa) to  $\alpha=0.888$  (Germany & Spain). Thus, both scales proved to be reliable in all countries.

## Self-sexualization

Participants who reported to have an Instagram account were asked whether they would post in underwear/swimwear, a photo in a sexually provocative pose, or a photo in underwear/swimwear in a sexually provocative pose. The items were answered on a 5-point Likert scale (1 = very unlikely; 5 = very likely). We calculated a mean score of these three items (Cronbach’s  $\alpha=0.820$ ) to obtain a single value of self-sexualizing posting behavior.

The female subsamples of all countries furthermore filled in the Enjoyment of Sexualization Scale (ESS; Liss et al., 2011). The ESS comprises eight items that are answered on a 6-point Likert scale from “disagree strongly” to “agree strongly”. Internal consistencies were acceptable to good and fell in the range between  $\alpha=0.752$  (South Africa) and  $\alpha=0.855$  (Italy).

## Statistical Analyses

To test for any mean differences between our samples, we conducted ANOVAs with country as fixed factor and the respective sample characteristics and variables of interest as dependent variables. In case of non-metric variables (gender, Instagram use, profile type, posting activity) we calculated Chi<sup>2</sup>-tests. In a second step, we calculated 2×6 ANCOVAs with Instagram use (yes/no) and country as fixed factors

and sexism and photo ratings as dependent variables. Several sample characteristics were treated as covariates.

In the last step, we conducted correlation analyses between sexism and photo ratings and between the photo ratings and self-sexualization tendencies separately for all subsamples. We then tested the correlation coefficients against each other for significant differences. In these analyses, we performed a Bonferroni correction and set the significance level to  $\alpha \leq 0.008$  (0.05 divided by 6) since we had three rating dimensions for the presented photos and two scores for sexism (benevolent, hostile) and self-sexualization (self-sexualizing posts, enjoyment of sexualization) respectively.

All analyses were conducted using SPSS 28 (IBM; Armonk, NY, USA). In order to adhere to open science standards, our study data are publicly available via <https://osf.io/2xw9v/>.

## Results

### Mean Differences in Subsamples

First, we tested for differences in the mean scores of our variables of interest in our subsamples. As can be seen in Table 1, there were some significant differences between the countries with respect to sample characteristics (significant post-hoc test differences between the different subsamples are indicated by superscripts). There was a significant effect on age ( $\eta^2 = 0.068$ ) with the Spanish and U.S. samples being somewhat younger than the samples from Germany, Italy, and Turkey. Moreover, we found a significant effect for political orientation ( $\eta^2 = 0.067$ ). Participants from Spain and the U.S. reported to be more left on the political self-placement although it has to be noted that all samples had mean values left from the center (i.e. scores below four on a scale of 1–7). Similarly, all samples reported to be quite unreligious with people from Turkey and South Africa having the highest mean values ( $\eta^2 = 0.061$ ). With respect to life satisfaction, participants from Spain and Germany scored slightly higher than participants from Italy, Turkey, and South Africa did ( $\eta^2 = 0.035$ ).

Looking at the variables measuring Instagram use, we could also observe some small, but significant differences. Whereas there were no significant differences in the number of followers, German participants spent significantly less time per day on Instagram compared to participants from Spain, the US, and South Africa ( $\eta^2 = 0.044$ ). While the means were quite low in all samples, participants from Spain and the US were more willing to engage in self-sexualizing posting behavior on Instagram than German, Italian, or Turkish participants ( $\eta^2 = 0.038$ ).

Taken together, there were differences between the countries' subsamples in demographic variables and Instagram related variables. However, the differences turned out to be quite small with effect sizes between 0.01 and 0.07.

The differences were considerably larger for the Instagram photo ratings (effect sizes  $0.126 \leq \eta^2 \leq 0.178$ ) and sexism mean scores (HS:  $\eta^2 = 0.169$ ; BS:  $\eta^2 = 0.217$ ).

## Differences Between Instagram Users and Non-users Across Countries

In further ANCOVA models, we checked for interaction effects of country and Instagram use on sexism and photo ratings. In these analyses, we controlled for age, gender, religiosity, sexual orientation, life satisfaction, and political self-placement. The effects of country remained substantial and significant for hostile sexism ( $F_{5,2037} = 27.01$ ,  $p < 0.001$ ,  $\eta^2 = 0.062$ ) and benevolent sexism ( $F_{5,2037} = 42.97$ ,  $p < 0.001$ ,  $\eta^2 = 0.095$ ) (see Fig. 1a and b). Similarly, the country subsamples still differed in all of the three photo rating dimensions: revealing clothing ( $F_{5,2037} = 52.46$ ,  $p < 0.001$ ,  $\eta^2 = 0.114$ ); appropriateness ( $F_{5,2037} = 33.19$ ,  $p < 0.001$ ,  $\eta^2 = 0.075$ ); attractiveness ( $F_{5,2037} = 51.55$ ,  $p < 0.001$ ,  $\eta^2 = 0.112$ ) (see Fig. 2a–c). However, there were no main effects of Instagram use on HS ( $F_{1,2037} = 0.07$ ,  $p = 0.796$ ), BS ( $F_{1,2037} = 1.88$ ,  $p = 0.171$ ), or revealing clothing ( $F_{1,2037} = 3.36$ ,  $p = 0.067$ ,  $\eta^2 = 0.002$ ). Main effects of Instagram use on appropriateness ( $F_{1,2037} = 10.76$ ,  $p = 0.001$ ,  $\eta^2 = 0.005$ ) and attractiveness ( $F_{1,2037} = 4.55$ ,  $p = 0.033$ ,  $\eta^2 = 0.002$ ) were only very weak. We also found a weak interaction effect of country and Instagram use on HS ( $F_{5,2037} = 2.39$ ,  $p = 0.036$ ,  $\eta^2 = 0.006$ ). None of the other possible interaction effects of country and Instagram use on sexism or photo ratings reached significance (all  $p$ -values  $> 0.11$ ).

## Associations Between Self-sexualization, Sexism, and Instagram Photo Ratings

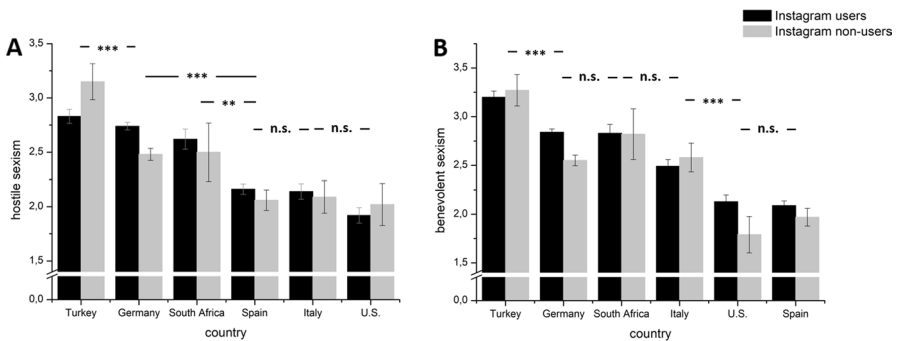
We further wanted to test, whether there would be cultural differences in the associations between the perception of sexualizing Instagram content, sexism, and the tendency to engage in self-sexualization. To do so, we calculated separate bivariate correlations for all country subsamples. For the associations between ambivalent sexism (HS and BS) and the evaluations of the photos (three dimensions), we adjusted the level of significance to  $\alpha \leq 0.008$  according to Bonferroni correction ( $\alpha = 0.05$  divided by 6). In the German subsample, hostile sexism correlated negatively with the perception of the depicted persons as being dressed in a revealing way ( $r = -0.153$ ,  $p < 0.001$ ), whereas there were no such associations in the other country subsamples. Furthermore, there were no meaningful correlations with BS at all. Neither of the sexism dimensions was related to the attractiveness ratings of the presented photos in any of the subsamples. Persons with more pronounced hostile sexism perceived the photos as less appropriate to be posted on Instagram. This effect was considerably larger in the Italian, Turkish and South African samples. Benevolent sexism also went along with lower ratings of appropriateness in the German, Spanish and Turkish subsample. Taken together, the associations between sexism and the evaluations of the presented photos were only small except for the Turkish sample, where we found moderate effect sizes (see Table 2).

We found stronger associations between the perception of sexualized Instagram photos and self-sexualization tendencies in Instagram users (upper part of Table 3). The correlation analyses revealed that there were no systematic associations between perceiving sexualized others as revealing and the readiness to upload self-sexualizing oneself. However, participants reported a higher likelihood of posting self-sexualizing photos if they rated the photos of sexualized others as more appropriate. This

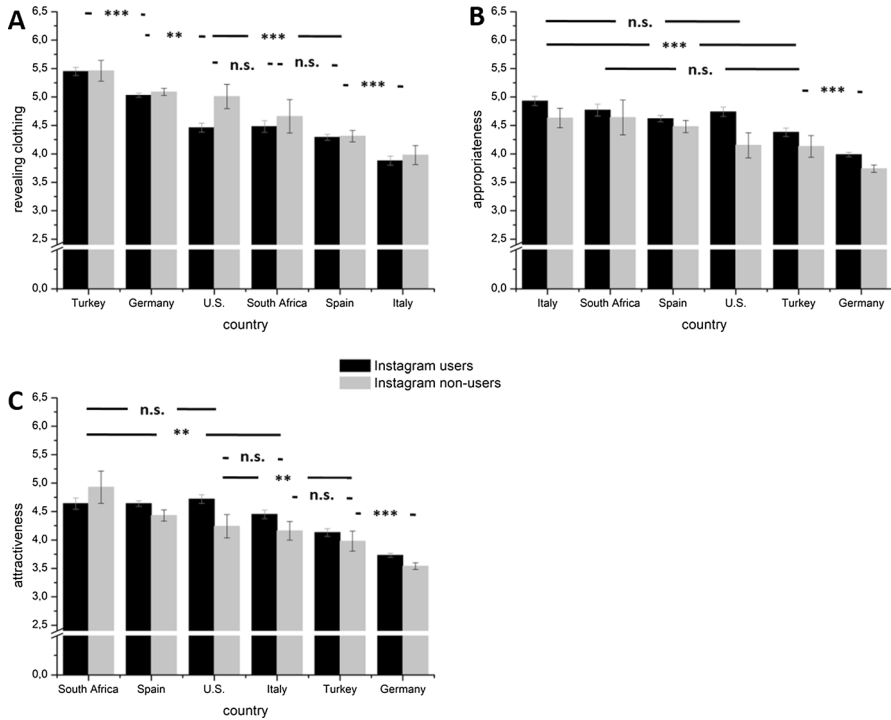
effect was particularly strong in the South African subsample, whereas the correlations in the U.S. and Italian samples did not survive Bonferroni correction (adjusted level of significance set to  $\alpha \leq 0.008$ ). Similarly, participants with greater self-sexualizing tendencies found the presented photos of others more attractive. Again, this effect was particularly stronger in South African participants whereas it did not reach significance in the Italian sample. Taken together, Instagram users across different countries who reported a higher likelihood for self-sexualizing posts found the presented photos of sexualized others more appropriate and attractive. Apart from users from South Africa, the countries' subsamples did not differ from each other substantially in this pattern (indicated by superscripts in Table 3).

We furthermore asked our female participants whether they enjoyed being sexualized by others and tested whether we would find associations with the photo ratings (i.e. perception of sexualized others) (lower part of Table 3). As with self-sexualizing posts, a higher enjoyment of sexualization was not related to the perception of the photos as sexually revealing. The only exception was the Turkish sample, in which higher levels of ESS went along with the perception of the presented photos as being more revealing. However, women with higher levels of ESS rated the photos as more appropriate with small effect sizes in participants from Germany and Spain and moderate effect sizes in the U.S., Italian, and Turkish samples. Furthermore, women with higher scores in ESS rated the presented photos as more attractive with somewhat higher correlations in the U.S. and Turkish samples compared to women from Germany, Spain, and Italy. Of note, there were no associations with appropriateness and attractiveness in South African women.

We also tested whether enjoyment of sexualization would be associated with the self-reported likelihood of engaging in self-sexualizing behavior on Instagram and found substantial correlations in all of our subsamples ranging from  $r=0.348$  (South Africa) to  $r=0.462$  (Turkey). Here, we did not find any significant differences between the countries' subsamples.



**Fig. 1** Estimated means for hostile sexism (A) and benevolent sexism (B) separated by country and Instagram use. *Note* Main effects of Instagram use and interaction effects were weak to non-existent. For a better readability, only main effects of country ( $<0.01$ ) are considered significant and indicated by  $**p < 0.01$ , and  $***p < 0.001$ . Countries sorted by mean values. Significance of difference also applies for following countries to the right. Error bars represent the SE



**Fig. 2** Estimated means for revealing clothing (A), appropriateness (B), and attractiveness (B) separated by country and Instagram use. *Note* Main effects of Instagram use and interaction effects were weak to non-existent. For a better readability, only main effects of country ( $<0.01$ ) are considered significant and indicated by  $**p < 0.01$ , and  $***p < 0.001$ . Countries sorted by mean values. Significance of difference also applies for following countries to the right. Error bars represent SE

## Discussion

The aim of the present study was to test for differences in sexism scores and the associations between sexism, the perception of sexualized others on Instagram and the tendency to engage in self-sexualizing behavior in six different countries. We furthermore wanted to test whether the use of Instagram might be associated with sexism tendencies.

Indeed, we found some substantial differences in the countries' subsamples with respect to sexism, self-sexualizing tendencies, and the evaluations of other people's Instagram posts. Sexism scores were particularly low in the U.S. sample and the Spanish sample and the highest in the Turkish sample, whereas participants from Germany, Italy, and South Africa scored somewhere in between. However, it has to be noted that sexism scores were low to moderate in all of our subsamples with scores ranging from 1.54 (U.S.; HS) to 3.44 (Turkey; BS) on a scale that had a range from 1 to 6.

**Table 2** Correlations between ambivalent sexism and evaluations of photos of self-sexualizing others

	Germany N = 916	Spain N = 443	USA N = 179	Italy N = 191	Turkey N = 222	South Africa N = 104
<i>Hostile sexism</i>						
Revealing clothing	-0.153 (<0.001) <sup>Sp,U,USA</sup>	0.041 (0.385)	0.043 (0.567)	0.092 (0.208)	-0.017 (0.802)	0.162 (0.100)
Appropriateness	-0.057 (0.084)	-0.146 (0.002) <sup>T,SA</sup>	-0.163 (0.029)	-0.269 (<0.001) <sup>G</sup>	-0.329 (<0.001) <sup>G,Sp</sup>	-0.349 (<0.001) <sup>G,Sp</sup>
Attractiveness	0.056 (0.088)	-0.099 (0.037) <sup>G</sup>	-0.035 (0.641)	-0.095 (0.192)	-0.044 (0.517)	-0.133 (0.178)
<i>Benevolent sexism</i>						
Revealing clothing	-0.057 (0.086)	0.091 (0.057)	-0.104 (0.164)	0.173 (0.017) <sup>G,U,T</sup>	-0.081 (0.228)	0.189 (0.055)
Appropriateness	-0.113 (<0.001) <sup>U,T</sup>	-0.180 (<0.001) <sup>U</sup>	0.082 (0.278)	-0.124 (0.087)	-0.275 (<0.001) <sup>G</sup>	-0.133 (0.178)
Attractiveness	0.090 (0.006)	-0.016 (0.734)	0.082 (0.276)	0.055 (0.451)	0.007 (0.923)	0.195 (0.047)

Superscripts indicate that correlation is significant and differs significantly from correlation in German (G), Spanish (S) U.S. (U), Italian (I), Turkish (T), or South African (SA) sample. According to Bonferroni correction, significance level is set to  $\alpha \leq 0.008$

**Table 3** Correlations between self-sexualizing behavior and attitudes and evaluations of photos of self-sexualizing others

	Germany N = 662	Spain N = 354	USA N = 158	Italy N = 156	Turkey N = 193	South Africa N = 93
<i>Self-sexualizing post (Instagram users only)</i>						
Revealing clothing	-0.134 (<0.001) <sup>Sp, I</sup>	0.043 (0.417)	-0.027 (0.733)	0.165 (0.039) <sup>G, T, SA</sup>	-0.085 (0.238)	-0.141 (0.179)
Appropriateness	0.253 (<0.001) <sup>SA</sup>	0.242 (<0.001) <sup>SA</sup>	0.188 (0.018) <sup>SA</sup>	0.182 (0.023) <sup>SA</sup>	0.292 (<0.001)	0.472 (<0.001) <sup>G, Sp, U, I, SA</sup>
Attractiveness	0.195 (<0.001) <sup>SA</sup>	0.247 (<0.001)	0.211 (0.008) <sup>SA</sup>	0.140 (0.082)	0.224 (0.002)	0.445 (<0.001) <sup>G, U</sup>
<i>Enjoyment of sexualization (women only)</i>						
Revealing clothing	0.034 (0.376)	-0.017 (0.766)	-0.101 (0.232)	0.012 (0.888)	0.237 (0.007) <sup>G, Sp, U, I, SA</sup>	-0.148 (0.239)
Appropriateness	0.136 (<0.001) <sup>U, I, T</sup>	0.194 (<0.001) <sup>U, T</sup>	0.393 (<0.001) <sup>G, Sp, SA</sup>	0.351 (<0.001) <sup>G, SA</sup>	0.446 (<0.001) <sup>G, Sp, SA</sup>	-0.029 (0.820)
Attractiveness	0.321 (<0.001) <sup>U, T</sup>	0.307 (<0.001) <sup>U, T</sup>	0.480 (<0.001) <sup>G, Sp, I, SA</sup>	0.202 (0.015) <sup>U, T</sup>	0.482 (<0.001) <sup>G, Sp, I, SA</sup>	0.130 (0.301)

Superscripts indicate that correlation is significant and differs significantly from correlation in German (G), Spanish (S) U.S. (U), Italian (I), Turkish (T), or South African (SA) sample. According to Bonferroni correction, significance level is set to  $\alpha \leq 0.008$

Comparing our sexism scores to those of Glick et al. (2000) who also included data of the six countries investigated in our study, the results roughly look the same with the biggest differences being lower scores in Spain and higher scores in Turkey in our 2021–2022 data. This trend can be explained by the markable shift towards liberal ideologies within the last decades in Spain that we already described in the introduction (Kantola & Lombardo, 2019). Contrarily, after the Gezi protests in 2013 the Turkish people experienced several changes and political measures that can be considered conservative and restrictive in terms of personal freedom (e.g., see Arslanap & Erkmen, 2020; Özen, 2020). In 2021, the Turkish government decided to withdraw from the *Council of Europe Convention on preventing and combating violence against women and domestic violence* (also called “Istanbul convention”) that was ratified in 2012. These developments may have contributed to higher sexism scores compared to the data of Glick and colleagues in 2000, when Turkey was in a liberalization and democratization process. Therefore, it can be argued that political shifts to the left or right might lead to more distant societal changes that apparently can affect the approval of traditional gender roles and sexism.

Regarding the photo evaluations, German and Turkish participants rated the presented Instagram posts as significantly more revealing, less appropriate and less attractive than participants did from the remaining country subsamples. The motivation to engage in self-sexualizing posting behavior on Instagram was generally low across samples. Nonetheless, participants from Spain and the U.S. reported a significantly higher likelihood of doing so than participants from Germany, Italy or Turkey. Fittingly, Günsoy et al. (2020) found a higher self-enhancement motivation in students from the U.S. (representing a European-American individualistic culture) compared to students from Turkey who they defined as belonging to a collectivistic culture. Means were also very low (and close to those of Turkish participants) in the German and the Italian sample which may be explained by the fact that the U.S. typically show the highest values in individualism, whereas European countries seem to be less individualistic (e.g., Schreier et al., 2010).

Thus, we could find some differences in sexism and Instagram related sexualization between different countries. However, a major issue with cross-national studies that is very rarely subject of discussion is the high selectivity of the drawn samples. As in most cross-cultural studies, our samples cannot be considered representative of their country but are convenience samples. We tried to consider this by also assessing variables like political ideology, religiosity, sexual orientation, or life satisfaction, which might describe cultural differences. When we controlled for these and further variables (age, gender), differences between countries in sexism reduced by half but remained significant. Similarly, the differences between the subsamples remained substantial and significant after controlling for the mentioned variables. Looking at the sexism scores and the photo ratings, particularly participants from the U.S. and Spain (and to a certain extent the Italian sample) turned out to be less sexist and comparably liberal in their evaluation of self-sexualizing others. These two samples also reported to be quite unreligious and liberal in terms of political orientation. The U.S. sample furthermore showed the least strong heteronormativity in sexual orientation. This is comprehensible with respect to Spain, which has undergone several political changes enforcing gender equality and liberality (Kantola

& Lombardo, 2019). Furthermore, Spanish people have been shown to hold more liberal and less sexist attitudes than other countries (Inguanzo et al., 2021; Kaspar et al., 2016). However, looking at the U.S., we currently observe conservative shifts like efforts in banning books that deal with sexuality in a liberal rather than a conservative way from school (Dallacqua, 2022), the discussion around the “Don’t Say Gay” (or “Parental Rights in Education”) law (Goldstein, 2022) or more conservative abortion laws in several states (Macklin, 2022). U.S. citizens usually tend to be more religious than people from European countries. Furthermore, studies found more sexist and less liberal attitudes in participants from the U.S. compared to Spain (Inguanzo et al., 2021; Negy et al., 2016). These findings contradict our results and clearly suggest to take our findings – and also those of other non-representative cross-cultural studies—with a pinch of salt. We cannot be sure whether the found differences are based on actual cultural differences or sample characteristics. The same holds true for the results of the Turkish sample, which (together with South African participants) showed the strongest tendency towards religiosity and political conservatism. Turkish participants also reported the highest scores in heterosexuality. These sample characteristics went along with the highest scores in ambivalent sexism and, alongside with the German sample, the most conservative ratings of the presented Instagram photos. While these results support the assumption that societal values such as heteronormativity or conservatism are associated with gender stereotypes and sexism, the limitation mentioned still applies: it is unclear whether our results trace back to actual cultural rather than sample characteristics.

Therefore, we were not only interested in mean differences (with questionable validity) between our samples, but also in whether there would be differences in the associations between sexism, the evaluation of self-sexualizing others on Instagram and individual tendencies to engage in self-sexualizing behavior across samples.

Correlations between photo ratings and sexism were quite low in all samples. As already shown in our previous report (Plieger et al., 2021), there was a small and negative association between hostile sexism and the perception of the presented photos as revealing in the German sample. Apart from that, sexism did not substantially affect whether participants perceived the presented photos as revealing. Thus, sexism does not seem to alter the definition of being scantily dressed cross-culturally. Similarly, whether we consider self-sexualizing others on Instagram attractive or not is not associated with sexist attitudes independent of country of origin. With respect to the perceived appropriateness of others showing themselves in a sexualized way on Instagram, we found substantial negative correlations with hostile sexism in Turkey, South Africa, and Italy. In the Turkish sample, we additionally found a substantial negative association between perceived appropriateness of self-sexualizing others and benevolent sexism. The other associations were either small or non-significant. Thus, finding someone other’s self-presentation more or less appropriate apparently does not heavily rely on one’s sexist attitudes in our German, Spanish and U.S. samples.

We furthermore checked for associations between the photo ratings of others and self-sexualizing tendencies by asking all users of our samples whether they would post self-sexualizing content on Instagram. We did not find significant associations with the perception of the presented photos as revealing in any of the subsamples.

Thus, the readiness to engage in self-sexualizing posting behavior seems not to be due to different perceptions of what can or cannot be considered sexually permissive. However, people from different countries willing to engage in self-sexualizing behavior find depictions of sexualized others more appropriate and attractive. Our countries' subsamples did not differ significantly in size of correlations indicating that these associations, albeit small, are culturally invariant. The only exception was the sample of South Africa, where we found a significantly stronger relation between the acceptance of sexualized others and self-sexualization tendencies. Although statistically significant, this finding should be interpreted with caution because the South African sample was the smallest with only 93 Instagram users. Female enjoyment of sexualization (ES) was also associated with more positive evaluations (i.e., as appropriate and attractive) of the presented Instagram posts. ES also correlated with the willingness to engage in self-sexualizing posting behavior in all of our samples. This makes sense in light of the findings of Ramsey and Horan (2018) although they did not find associations between self-sexualization on Instagram or Facebook and ES. However, Ramsey and Horan (2018) found positive correlations between enjoyment of sexualization and the desire for attention on social media. Considering the fact that (self-)sexualizing content usually gets more attention and likes than non-sexual content, our results go well with their findings. In the study conducted by Ramsey and Horan (2018), ES also went along with higher scores in body surveillance indicating a tendency to be focused on outer appearance. Since we only presented photos of attractive persons, the correlation between ES and positive evaluations of sexualized attractive others is comprehensible. Taken together, the coherence of positive evaluation of self-sexualizing others and self-sexualization can be considered culturally invariant.

Therefore, the results of the within-sample correlations are largely the same across different countries suggesting similar mechanisms in the interplay between sexism, sexy-self presentation and the perception of self-sexualizing others.

Finally, Instagram users were not more sexist than non-users and the effects on evaluation of the presented Instagram posts were only minimal. Furthermore, variables measuring general use behavior (i.e. time spent on Instagram, number of followers, posting activity) were not substantially related to sexism or self-sexualization. Therefore, our findings do not support the assumption that the use of Instagram leads to more traditional views on gender roles or a heightened sexual permissiveness in general. It seems to be more important, what kind of content users consume on SNS. Evidence already suggests that exposure to sexualizing content is associated with greater self-sexualizing tendencies (e.g. De Vries & Peter, 2013). Therefore, future studies should aim to assess Instagram use behavior more specific, for example by asking the participants how often they consume sexualizing content on SNS or asking them, what kind of accounts they follow.

## Limitations

We need to mention a few limitations to our study. We already described a major issue that applies to many cross-cultural studies: samples from different countries

are very rarely representative that makes it difficult to interpret differences between them. In our study, sample sizes ranged between 104 and 916 participants. Whereas the mean age (22–31 years) suggests that the samples did not solely comprise students, a high proportion of students is likely in at least four of our six samples because the samples were collected by the student co-authors living in the respective countries who mainly advertised our study in their peer-groups. Therefore, the participants are also likely to live in a certain area of the respective country even though the study was conducted online. In some countries, for example in the U.S., there are big regional differences with respect to social political attitudes. For example, Worthen et al. (2017) investigated attitudes toward LGBT individuals and found more negative attitudes in participants from Oklahoma and Texas compared to participants from Italy and Spain. In contrast, the U.S. sample in our study, which presumably mainly comprised participants from Michigan, reported to be the most liberal and showed the lowest scores in heterosexual orientation. Future cross-cultural studies should aim to collect bigger and more representative samples. Despite this limitation, our results fit former findings and seem conceivable in light of societal and political developments in the countries investigated.

We furthermore assessed the use of Instagram very broadly. While our variables are important key variables in the overall description of how invested a person is on the platform Instagram, they may not be specific enough to cover the exposure to sexualizing content. Many people may use Instagram just to keep up with what their friends are doing or only follow influencers that create content about cooking or decoration. Consequently, future studies should try to cover Instagram use more exactly by asking what kind of content a person consumes on SNS.

Moreover, our study is cross-sectional so that we cannot tell whether mere exposure of sexualized others and a higher perception of appropriateness of such stimuli leads to a higher motivation to engage in self-sexualization. It is also conceivable that persons with self-sexualizing tendencies simply find a revealing self-presentation both by themselves and by others attractive and appropriate. With respect to self-sexualization it must be noted that we only assessed the enjoyment of sexualization in our female participants. We did that because sexualization is often associated with women rather than men. However, this topic has also become increasingly important for men (e.g. Barron et al., 2021; Manago et al., 2015). Similarly, we only assessed sexism toward women for time-economic reasons because women still are target of sexist attitudes more often than men. Nevertheless, sexism toward men is an understudied phenomenon that deserves more attention in order to get a more accurate impression of attitudes about gender roles and gender equality.

## Conclusion

In conclusion, we showed differences in ambivalent sexism in six different countries that remained substantial after controlling for sociopolitical variables. However, negative correlations between sexism and the evaluation of self-sexualizing others on Instagram showed a similar picture in all countries' sub-samples. Similarly, self-sexualizing tendencies went along with positive evaluations of sexualized

Instagram posts in all countries. This suggests similar mechanisms in the interplay between exposure to sexualized stimuli on Instagram and individual self-sexualizing attitudes. However, the mere use of Instagram or time spent on Instagram were not associated with sexism and effects on the evaluation of sexualized others were only small in all of the six samples. Future studies should therefore aim to assess Instagram use behavior more specifically.

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## Declarations

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**Ethics Approval and Consent** The study protocol was in line with the Declaration of Helsinki. All participants gave informed consent. As we followed standard procedures in applied psychological research (e.g., informed consent and adherence to the Data Protection Guidelines of the European Union) and did not use body invasive procedures or drugs, the procedure and materials of the present study were deemed unnecessary by the institutional review board of the Institute for Psychology of the University of Bonn.

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