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# The female nude and the naked guy: declarative and nondeclarative personal culture in aesthetic responses to artistic nude photography

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## Abstract

We have studied the operation of the male gaze in the aesthetic evaluation of contemporary artistic photographs containing explicit male and female nudity among heterosexual men and women. Apart from explicit evaluations, we also tracked the time it takes respondents to express their opinion as an indicator of cognitive deliberation, to see to what extent expressed opinions rely on nondeclarative inclinations or rather declarative considerations. We find that both men and women aesthetically prefer female nudity—in line with the male gaze—but men's preference is more outspoken. Moreover, people's values affect evaluation as well, with sexual conservativeness lowering the liking of artistic nudity in general and artistic sympathies increasing appreciation of male nudity in particular. Although neither respondent gender, nor sexually conservative values affect response time, people with more sympathetic values towards the arts think longer when assessing the beauty of male nudity. Our findings indicate that both the male gaze and sexual conservativeness operate as nondeclarative frames of reference that lead to routine reactions in aesthetic appreciation of artistic nudity, but values of sympathy for the arts operate as a form of declarative personal culture, which leads to a cognitive effort to overrule the male gaze.

**Keywords** Artistic nudity · Photography · Gender · Cognitive sociology · Male gaze · Values

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## Introduction

Cultural theorists have long argued that portrayals of women in art and popular culture—and of female nudity in particular—often take on a heterosexual male perspective. This ‘male gaze’ (Mulvey 2006 [1975]) depicts the female form as a sexual object (Reichert et al. 1999), a fate that has largely escaped the male form until quite recently (Dafferner et al. 2019). According to this perspective, men and women alike internalize the male gaze, as it exerts a powerful influence over perceptions of the body. In *Ways of Seeing*, John Berger (1973, p. 47) says: “Men look at women. Women watch themselves being looked at. This determines not only most relations between men and women but also the relation of women to themselves”.

The male gaze is a form of *public culture* (Lizardo 2017), manifested in broadly accepted symbolic representations and material objects. But this public culture also has an impact on people’s *personal culture*, the skills and knowledge individuals rely on to inform actions. Lizardo (2017) distinguishes between *nondeclarative* and *declarative personal culture*, defining nondeclarative culture as that which includes deeply inculcated skills, associations and inclinations, acquired slowly through repeated socializing experiences. By contrast, he defines declarative culture as deliberately learned ideas, which can subsequently be mobilized more reflexively. Cast in these terms, we hypothesize that the male gaze affects nondeclarative culture, as the repeated—often unconscious—exposure to certain forms of nudity leads to pervasive nonreflexive preferences.

However, this cognitive mechanism largely remains an assumption. Even if some understandings about reality are more deeply ingrained, that does not necessarily mean that such a frame of reference is taken for granted and that people act on it automatically and routinely. Different considerations come into play when people make up their minds as they can approach stimuli from various perspectives. Armstrong and Weinberg (2006) found that both artistic sensitivity and sexual conservativeness drive viewers’ opinions of sexually explicit material, suggesting that considerations based on value commitments affect people’s stance on nudity. People can actively avail themselves of ideas stored as declarative culture and these may be more or less weakly tied to nondeclarative types of culture. Based on their values, people can go against deeply instilled proclivities. Although people’s stances appear stable, beneath the surface of explicitly stated opinions a more intricate cognitive process is likely to be at play. In this study, we aim to empirically add to the understanding of how the male gaze affects expressed attitudes on nudity, by taking into account the cognitive effort involved in forming them.

In doing so, we focus on contemporary artistic nude photography in particular. As Eck (2001, p. 610) has argued, art serves as a bounded space in which “the nude is understood, acceptable and legitimate”. We, therefore, expect increased cognitive ambiguity, as viewers might make efforts to reconcile the nondeclarative preference for female nudity—driven by the male gaze—with declarative values concerning the arts and sexual conservativeness, which may be at odds with the male gaze.

Previous sociological efforts on viewers’ reactions to nudity and sexually explicit material were primarily concerned with expressed attitudes and,



therefore, in principle only tapped into respondents' use of declarative culture. By contrast, we ask a sample of heterosexual respondents to aesthetically evaluate a set of nude artistic photographs of both male and female models, but we also track response times to measure cognitive challenge. As declarative knowledge is stored more superficially, its activation is less instantaneous and requires more deliberation (Lizardo 2017). Therefore, the time it takes people to respond provides an indication of the effort that is required for cognitive processing (e.g. Moore 2017). Assessing the cognitive challenge people face when evaluating stimuli is rarely incorporated in sociological studies (Lizardo et al. 2020). It allows us to not only assess explicit responses, but also identify to what extent people put an effort in evaluating male and female nudity depending on their values.

## The male gaze among men and women

Depictions of nudity have been prevalent throughout the history of visual art, but since the Renaissance the focus has disproportionately been on female nudes. Following the lead of Mulvey (2006 [1975]), this disparity has been attributed to the 'male gaze'. As artistic representation has traditionally been produced primarily from a male perspective and targeted at a predominantly male audience, women are presented as objects of male sexual desire. Given its pervasiveness in the arts (Nead 1992) as well as popular culture (APA 2007; Ponterotto 2016; Brandt and Carstens 2005), the male gaze is taken to have a powerful impact. Indeed, studies have substantiated that both men's (Wright and Tokunaga 2016) and women's attitudes (Wright et al. 2015) are affected by materials objectifying women.

In his theory of culture, Lizardo (2017) argues for a distinction between on the one hand *personal culture*—skills and knowledge that inform people's actions at the individual level—and on the other hand *public culture*—frames, discourses and classifications shared more broadly. These types of culture are interconnected, as public culture will be shaped gradually as the outcome of individual actions, but often public culture will also inform those actions. Fueled by numerous representations in the media and the arts, the male gaze (as *public culture*) guides people's perceptions of portrayals of the male and female form. More specifically, the male gaze is likely to affect primarily *nondeclarative personal culture*—those skills, dispositions and associations with which people have been familiarized from early childhood onwards and on which they routinely rely. Informed by an unconscious body of cultural understandings, their actions appear to be the outcome of a gut feeling—*know-how* in Lizardo's (2017) terms.

Indeed, according to Eck (2003), the male gaze is the main reason why people tend to respond quite differently to male and female nudity. In interviews with 45 heterosexual respondents looking at images containing nudity, she finds that both men and women comfortably discuss female nudity. Among male respondents, she notices a sense of entitlement when commenting on nude women. Female respondents, by contrast, primarily assess the presumed attractiveness of naked female bodies to men and compare themselves to this standard. Her findings on male nudity are



in striking contrast to reactions to female nudity. Men engage in evasive discursive strategies to avoid having to comment on it, while women quickly disqualify any comments on attractiveness of male models by remarks suggesting that the material on display is considered somewhat inappropriate. This leads Eck (2003) to conclude that the male gaze conditions how gender is performed in response to female nudity, but it also implies that both men and women respond less favourably to male nudity. Stated differently, men and women alike have been familiarized to the public culture of the male gaze and have, therefore, similarly incorporated it as a part of their personal culture. Consequently, our first set of hypotheses is that *1a. female artistic nudity will be aesthetically appreciated more than male artistic nudity*, and *1b. this preference will be shared by men and women*.

Although the male gaze would have us expect no differences based on viewers' gender, it is still worthwhile to test for such differences. Previous research (Belch et al. 1981; Simpson et al. 1996) has found that men are more outspoken in their preference for female nudity than women are. Moreover, women have been found to be less 'category-specific' when it comes to being sexually stimulated by depictions of nudity, which means they care less about the gender of the people in nude images (Chivers et al. 2004). While our study does not focus on sexual arousal, this might suggest that women discriminate less when appreciating nudity.

## Artistic nudity and values

Although Eck documented the impact of the male gaze in general, it is worth noting that she studied reactions to diverse forms of nudity and did find her interviewees to be much more accepting of nudity in art (Eck 2001). Nudity in that context is argued to signal aesthetic rather than sexual appeal. It makes clear that viewers do not react to nudity automatically, but they can approach it from different perspectives.

The relevance of a distinction between perspectives in viewing sexually explicit material has also been signalled by Armstrong and Weinberg (2006). In a study of young adults' reactions to two artistic photographs depicting masturbation (one presenting a male, the other presenting a female model), these authors notice that as viewers' cultural competence increases, they refer more to pictorial quality, but viewers also display different so-called 'pornography thresholds'—different levels of tolerance towards sexually explicit materials. The authors, therefore, identify two dimensions underlying respondents' reactions: 'liberal/conservative' and 'artistic/nonartistic', thus, calling attention to the fact that people's value orientations play an important role in how they eventually react to materials of a sexual nature.

This too can be made sense of using Lizardo's (2017) conceptual apparatus. Apart from the durably acquired, taken for granted conceptions of reality that constitute nondeclarative personal culture, people also have *declarative personal culture* in the form of values, attitudes and orientations (Lizardo 2017)—in other words, more consciously acquired, systematic knowledge. This *know-that*, as Lizardo (2017) calls it, can be accessed deliberately to argue or justify an opinion or to direct action more reflexively. Declarative and nondeclarative personal culture may be more weakly or



strongly tied. Stated differently, people's values may be at odds with inclinations and they may choose to actively override gut feelings.

In sum, the values to which people knowingly subscribe will also affect their reactions to nudity, even if these conflict with inclinations spurred by the male gaze. People with a strong attachment to the arts can be expected to make an effort to appreciate depictions of nudity for their artistic qualities and, as those qualities are in principle unrelated to the gender of the nude model, they may overrule the male gaze. We, therefore, hypothesize that *2a. sympathy for the arts will increase the appreciation of artistic nudity* and *2b. sympathy for the arts will lead to less differentiation between male and female nudity*.

By contrast, sexually conservative views are likely to make people less accepting of nudity and it being artistic is then probably considered irrelevant. Given the slighter prevalence of male nudity, this negative stance may be increased even more for male nudity. Hence, we hypothesize that *3a. sexual conservativeness will decrease the appreciation of artistic nudity* and *3b. sexual conservativeness will add to the disapproval of male nudity in particular*.

## Nudity and cognitive challenge

In previous work on nudity, researchers have focused on *what* viewers have to say about the material they are viewing. This applies to both qualitative, interview-driven analyses (e.g. Eck 2003; Armstrong and Weinberg 2006), and more quantitative analyses built on survey responses to explicit photographs (McDowall 2008). Especially in an interview setting, where one is urged to produce a more or less coherent argument to a stranger, respondents are likely to carefully consider their answers (Vaisey 2009). The reaction as expressed is the outcome of a deliberation process that may involve different considerations. This means that the cultural meanings informing people's response to nudity also entail different cognitive processes. A more substantiated understanding can be added to previous findings by also taking into account the cognitive deliberation underlying aesthetic responses to male and female nudity.

In recent years, cultural sociology has seen a burgeoning attention for the cognitive processes involved in the enactment of culture (Brekhus 2015; Zerubavel 2015; Kurakin 2020). Borrowing from cognitive psychology (Kahneman 2011), the view has gained way that human cognition can be understood in terms of a dual-process model (Vaisey 2009; Lizardo et al. 2016). The model of culture proposed by Lizardo (2017) fits in this tradition. Nondeclarative personal culture leads to decision making that occurs without much thought. The reliance on gut feelings requires little cognitive effort. By contrast, considerations made as part of declarative personal culture imply an active cognitive effort to reflexively check and evaluate courses of action.

Although there is quite some debate in the literature concerning the exact nature of the relationship between the two cognitive processes and they have been termed differently by various authors (cfr. Evans 2008), there seems to be a consensus that the first, nondeclarative mode of cognitive processing—leading to gut-feeling



reactions—occurs considerably faster than the second mode, which requires more reflexive consideration (Vila-Henninger 2015). This temporal aspect is often considered the key to empirical applications of dual-process models. Although various methods have successfully been developed (mostly in psychology) to assess automatically activated cognition, such as the Affect Misattribution Procedure (AMP), relying on the effect of priming on evaluations (Payne et al. 2005; Miles et al. 2019), some methods therefore rely on time for measurement - most notably the Implicit Association Test (IAT), which uses response time (Greenwald et al. 1998). We agree (with proponents of the reasoning underlying the IAT in particular) that response time is a useful way to gain access to the level of cognitive challenge posed by a certain situation (Schaap et al. 2019; Lamont et al. 2017; Moore 2017). Therefore, in addition to the substantive views that people express when evaluating nudity, we also track how long it takes them to do so.

Before going into hypotheses about what we might observe when accounting for response time, we should address what we expect to learn from such information. We do not claim that we can unambiguously distinguish between responses that are clearly unconsciously motivated and those that are undeniably the result of conscious deliberation. We do not posit (or even assume the veracity of) an empirically observable cutoff point where the first mode of cognitive processing gives way to the second. As response time is essentially a proxy for the *amount of* cognitive processing, it does not offer insight into the actual cognitive processes that are at work. We rather argue for a heuristic application of dual-process reasoning. Empirically, this translates into a gradual model, whereby a longer response time merely serves as an indication of an increasing amount of reflexive consideration and, thus, the cognitive challenge people experience. Latency then indicates that our response has gone through a more diligent check.

The male gaze implies a preference for female over male nudity, but as it is conceptualized to be incorporated as nondeclarative personal culture, we expect its effects to be manifested without (slower) declarative considerations. Hence, we hypothesize that *4a. the gender of the nude model will not affect how fast people come up with an appreciation*. Moreover, as men and women alike are subject to the male gaze, *4b. we do not expect reaction time to depend on viewer gender*. By contrast, as a part of declarative culture, we expect value-driven considerations to take more time. Therefore, we hypothesize that *5. stronger attachment to values of sympathy for the arts will lead to slower reactions*, and *6. so will sexually conservative values*.

## Methods

### Design and sample

In this study, we presented a stimulus set of eight nude contemporary art photographs to 121 heterosexual respondents in an online questionnaire that we produced through Qualtrics. Respondents were requested to evaluate the individual photographs aesthetically, while their response time was measured. Data were





collected via Amazon Mechanical Turk, a crowdsourcing platform where small tasks—called HITs (Human Intelligence Tasks)—are proposed to registered users (so-called workers), which they can do in return for payment. As HITs typically constitute tasks that cannot be left to artificial intelligence and require human processing, they lend themselves very well for the purpose of surveying. A growing number of studies in sociology and psychology rely on this crowdsourcing platform for data collection (e.g. Mize and Manago 2018), including studies on aesthetic experience (e.g. Wanzer et al. 2020).

The literature attests to the quality and reliability of the data collected on the platform, finding no substantial differences in results when replicating lab-based studies on Mechanical Turk (Buhrmester et al. 2016; Paolacci et al. 2010). Given the fact that our study involves timing responses, it is important to mention that there are also no indications of higher levels of inattention among participants compared to a laboratory setting (Buhrmester et al. 2018; Komarov et al. 2013). However, in line with common practice in IAT procedures (Greenwald et al. 2003), to avoid the possibility that larger distractions (possibly indicating inattentiveness) would have a disproportionate effect on findings, we excluded answers that took longer than 10 seconds (0.1% of observations). As recommended by Peer et al. (2014), we deliberately did not include formal attention checks, as this could make respondents overly cautious, slowing down response (in fact, as this argument also applies to a heavily controlled study environment, our use of a ‘non-suspect’ online survey is more likely to avoid respondents overthinking and, thus, producing reactive effects compared to a laboratory setting).

As respondents recruited on Mechanical Turk are essentially self-selected, there is little control on representativeness. Although we are aware of this limitation, for our present purposes we did not consider this a major disadvantage. We primarily wanted to ascertain sufficient variation in the relevant variables, for which Mechanical Turk worker samples are highly suitable (as confirmed by Buhrmester et al. 2018). As will be explained, possibly relevant characteristics were included by means of statistical control.

Given the nature of this study, we posed some additional requirements for participation. First, only respondents in the United States could participate. Apart from the fact that this country has the largest and most diverse Mechanical Turk worker pool, we are also aware that acceptance of nudity differs between countries. By restricting the sample to a single country, we avoided that variation in evaluation is not due primarily to national differences. Second, only so-called Master Turkers could take the survey, workers with a validated account and a good reputation based on previous tasks (completion and not having been blocked). Third, given the fact that a large part of the survey was keyboard operated, it could only be taken from a laptop or desktop computer. Finally, it was mentioned in both the HIT description on Mechanical Turk and the introduction to the survey that it contained nudity. For this reason, only adults could participate. By granting their active informed consent, respondents needed to indicate explicitly that they were 18 years or older and that they agreed to viewing such sensitive materials. One hundred twenty-eight respondents participated in the present study, 121 of whom identified as (primarily) heterosexual.





## Dependent variables: explicit evaluation of artistic nudity and cognitive challenge

Respondents were asked to evaluate each stimulus aesthetically. They were instructed to rate how *beautiful* they found the individual stimuli. As beauty may refer to both the pictorial qualities of a photograph and the model shown in it, we deliberately selected this criterion to allow for both these readings. Evaluations were collected using a five-point scale (1 = 'not at all', 2 = 'a little', 3 = 'moderately', 4 = 'quite a bit' and 5 = 'extremely'). However, an inspection of the distribution made it clear that the resulting variable was not normally distributed (which was further confirmed by significant Kolmogorov-Smirnov and Shapiro-Wilk statistics). For this reason, it was transformed into a binary variable. Due to the categories of the original variables, we decided to use only the lowest category as the reference category. The binary coding, therefore, meant that answers indicating that the stimulus was considered totally not beautiful were used as a reference and a score of 1 was awarded if a respondent indicated to find a photograph beautiful, even if only slightly.

Apart from explicit attitude towards the stimuli, we also assessed the level of cognitive challenge by tracking the response time for individual answers. The questionnaire was designed in Qualtrics specifically to enable a valid measurement in this respect, inspired by the procedure described by Moore (2017). As Qualtrics questionnaires use point-and-click operations by default, the time needed to select an answer depends in part on the respondent's ability in operating a computer mouse. For this reason, in the evaluation phase of the questionnaire, mouse operations were overruled and respondents could only navigate through the questionnaire by using keyboard instructions. By way of training, before the actual evaluation task respondents were made accustomed to operating the questionnaire by using only the keyboard in an exercise consisting of a sequence of instructions to hit particular keys. Although this registration of response time is comparable to IAT procedures, respondents remained unaware of the fact that the speed of their response was being considered.

As the time needed to read a question will affect the time it takes to respond, the evaluation was surveyed using only the word 'beautiful'. In the general instructions before the evaluation task, respondents were told that they would be shown words in combination with pictures and had to indicate on the five-point scale how well the word fit with the picture. In that way, respondents did not need to read a question before they could decide on their assessment. Apart from emphasizing that there were no right or wrong answers, the instructions also stressed that the respondents' first impression was what mattered, so they should respond as fast as they could. This instruction is quite common in survey and IAT instructions and in this way respondents were subtly urged to not overthink their answers.

After the aforementioned training exercise, the following procedure was applied. Per stimulus the respondent first saw a large, high-definition image of the photograph. In this way, the respondent could inspect the stimulus without increasing



the response time for the evaluation. Then, respondents could proceed to the actual evaluation by hitting the space bar. A smaller version of the photograph was displayed with the evaluative word right below in large bold uppercase letters. Underneath, the answer categories were shown. We made sure that these elements (image, word, answer categories) fit on a single screen to avoid respondents needing to scroll down, which would have required additional time. After hitting a key from 1 to 5 to give an answer, the respondent automatically went to the next screen.

Respondents were familiarized with the evaluation procedure by going through the different steps in a training evaluation of two initial pictures that were excluded from analyses (one depicted a male model, the other a female model to avoid priming effects). We registered whether respondents continued to use the mouse into the actual evaluation task. Registered measurements (both explicit and timing) that were preceded by an attempt to use the mouse were excluded from analyses, as this would result in an invalid time measurement. This occurred in only 0.7% of evaluations, which indicates that the instructions were clear and the procedure was sufficiently easy to operate.

### **Independent variables and controls**

To get an idea of the impact of the male gaze, we studied differences in reaction to male and female nudity. Therefore, half of the eight stimuli were photographs of female nudes, the other half were male nudes. To make sure that the stimuli were undeniably artworks, we used photography by reputed artists who specialize in depictions of nudity. Respondents were informed that the stimuli were works of art, but the names of the photographers were not mentioned to avoid priming. We only used original black-and-white photography to avoid any confounding effects of colour on evaluation without the need of image manipulation. The entire set of photographs displayed frontal nudity, exposed genitals and bare chest areas, but none of the pictures showed overtly sexual content (such as intercourse or masturbation), clear signs of sexual arousal (such as an erect penis) or sexually suggestive poses. The stimuli were characterized by compositions in which models were placed in the centre of the frame. The models depicted may be considered young and in good shape. Only White nude models were displayed in the stimuli. We recognize that race/ethnicity may play a major role in the meaning of nudity. However, as we chose to focus primarily on differences between male and female nudity, we decided to keep the race/ethnicity dimension constant. A list of the stimuli used can be found in the online supplement (Appendix A).

Before the evaluation task, respondents were surveyed about their gender and values of sympathy for the arts and sexual conservativeness, as well as other characteristics that might bear on evaluation (which were accounted for by way of statistical control). For ease of use, the respondents could navigate through this part of the questionnaire with mouse operations.



To check for gender differences in the reactions to artistic nudity, respondents' gender was enquired through the options 'male,' 'female,' and 'other, specify ...'. As none of the participants chose the third category, we used a binary variable (male = 0, female = 1). We also asked for respondents' sexual identity (Kimberly et al. 2014) as this may impact reactions to male and female nudity. The answering categories were 'exclusively heterosexual' (90.6%), 'primarily heterosexual' (3.9%), 'bisexual' (3.9%), 'primarily homosexual' (0.8%), and 'exclusively homosexual' (0.8%). Although in line with estimated population proportions (Gallup 2017), the small number of people who did not identify as (primarily) heterosexual ( $n = 7$ ), implied that we would not be able to conduct any sensible statistical analyses on these respondents—especially since this group needed to be further sub-divided into men and women to produce any analytical gains. We, therefore, decided to exclude these respondents from our analyses and to focus solely on those identifying as (primarily) heterosexual.

To get an idea of the effect of people's relevant values, we collected data on people's attitudes towards the arts and how liberal their views on sexuality are. These values were measured through two sets of five-point Likert scale items (see Appendix B of the online supplement). For artistic sympathy, respondents were instructed to indicate their agreement with 15 statements on the role and importance of—as well as support for—the arts. The mean score was calculated, with a higher score indicating a greater sympathy for the arts (Cronbach's  $\alpha = 0.87$ ). Sexual conservatism was measured as the respondent's mean agreement to 14 attitudinal statements about sexuality, which was adapted from Hudson et al. (1983). On this scale, a higher score implies a more conservative stance (Cronbach's  $\alpha = 0.95$ ).

We also controlled for respondents' age to account for the fact that the survey is computer operated and reaction speed is also likely to go down with age. Having possibly grown up under a stricter sexual morale, it may seem plausible that older people are more sexually conservative. Any effects on reactions to artistic nudity should, therefore, be accounted for by entering the measure of sexual conservatism and we expect no direct effects other than this on theoretical grounds. Age was surveyed by asking the respondents about their year of birth and transformed by subtracting it from 2018 (the survey was administered in January–February 2019). The resulting variable was means-centred when entering it into analyses. Additionally, statistical models controlled for respondents' ethnicity and education level. Given that the majority of respondents identified as Caucasian, we used a binary variable to set Caucasian (reference category) apart from other ethnicities (coded 1). Education level was coded into four categories and included as a covariate. An overview of all the variables included in the analysis is presented, along with descriptive statistics, in Table 1.



**Table 1** Descriptive statistics for study variables**Dependent variables**

<b>Beautiful – explicit score (binary)</b>			<b>Frequency</b>
0 (not beautiful)			273 (28.2%)
1 (beautiful)			688 (71.1%)
		<b>Range</b>	<b>Mean (standard deviation)</b>
<b>Beautiful – response time</b>	seconds	0.05–8.46	1.61 (1.07)

**Independent variables**

<b>Model gender (binary)</b>			<b>Frequency</b>
0 (male nude)			484 (50%)
1 (female nude)			484 (50%)
<b>Respondent gender (binary)</b>			
0 (man)			69 (57%)
1 (woman)			52 (43%)
		<b>Range</b>	<b>Mean (standard deviation)</b>
<b>Age</b>	years	23–73	41.21 (10.84)
<b>Sympathy for the arts</b>	score	2.20–4.73	3.78 (0.57)
<b>Sexual conservativeness</b>	score	1.00–4.71	2.06 (0.89)
<b>Non-Caucasian (binary)</b>			<b>Frequency</b>
0 (Caucasian)			104 (86%)
1 (non-Caucasian)			17 (14%)
<b>Education</b>			<b>Frequency</b>
1 (none to high school)			27 (22.3%)
2 (vocational technical institution to junior or community college)			31 (25.6%)
3 (undergraduate degree)			51 (42.1%)
4 (graduate or higher)			12 (9.9%)

**Results****Expressed evaluation**

To assess whether artistic nudity is aesthetically evaluated differently for female and male models, and to see whether this depends on the viewer's values and gender, we regressed the explicit *beautiful* assessment on the binary variable representing the gender of the nude model (coded with male as the reference category), as well as the respondent's gender and measures for sympathy for the arts



and sexual conservativeness. As effects might hypothetically differ in relation to male or female nudity, interactions between the photographic model's gender and the respondent's gender, artistic sympathy and conservativeness were accounted for as well. Respondents' age, education level and reported ethnic identity were included in the model as controls.

Given the fact that aesthetic appreciation of the stimuli was categorized as a binary variable, a binary logistic regression was conducted. As individual respondents evaluated eight distinct stimuli, the dataset contained eight rows per respondent. However, the scores from a single respondent are not independent observations, and this needed to be accounted for in the analyses. Therefore, we conducted multilevel modelling, with individual respondents as the grouping level. In practice, this means that we allowed the intercept for individual respondents to deviate from the mean intercept (so-called random intercepts), thereby taking into account the fact that some respondents are more generous in the scores they award. This procedure does not lead to substantive information, but merely serves to arrive at a proper estimation of the general effects across respondents (so-called fixed effects).

To provide a more intuitive representation of results of the binary logistic regression analysis and in line with the recommendations of Mize (2019), we report average marginal effects to present the impact of variables on the likelihood of finding a stimulus beautiful (extended models can be found in Appendix C in the online supplement).

### Nude model and respondent gender

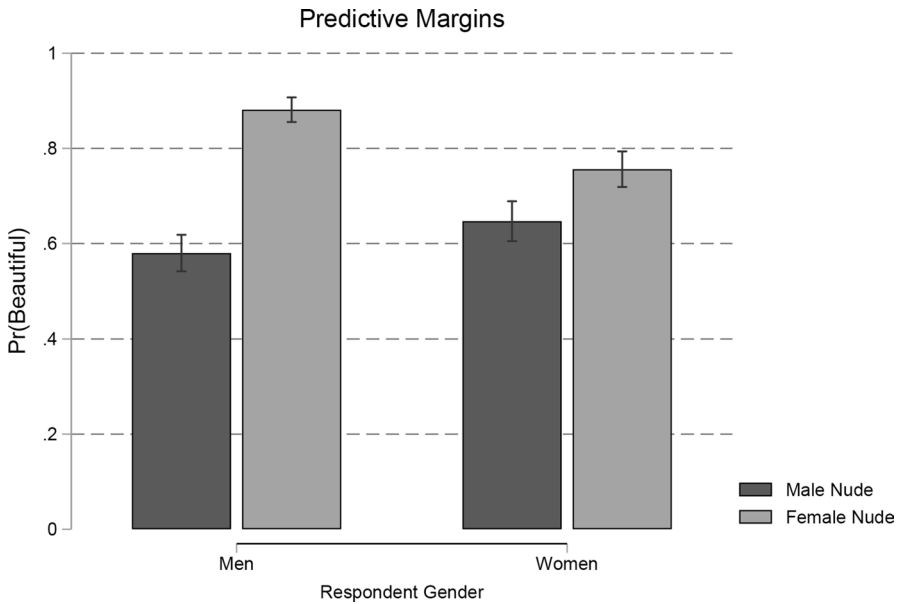
We find that photographs of female nudes ( $AME_{\text{femalemodel}} = .82$ ,  $SE = .02$ ) are significantly more likely to be found beautiful than photographs of male nudes ( $AME_{\text{malemodel}} = .61$ ,  $SE = .03$ ,  $\Delta = -.21$ ,  $p < .001$ ). However, the general effect of the model's gender does conceal a rather large difference by respondent gender. We introduced an interaction effect between the nude model's gender and gender of the respondent, by calculating the first and second differences between the average marginal effects of male and female respondents evaluating male and female nudity. This means that the average marginal effects are compared for different combinations of categories of the variables involved in the interaction—the first difference in this case compares average marginal effects for male and female nudity within a particular category of respondents' gender, the second difference compares the two first differences to one another (Table 2). As can be seen in Fig. 1, both men and women are significantly more likely to find female nudity beautiful than male nudity, but the difference is much more pronounced for the men responding. In other words, the male gaze drives both men and women to prefer female to male nudity, corroborating hypothesis 1a, but as men are much more outspoken in their preference, we consider this only partial confirmation of hypothesis 1b.



**Table 2** Probability of respondent identifying image as 'beautiful' by respondent gender and model gender with test of interaction ( $N = 961$ )

	Margin	SE	1 <sup>st</sup> differences	2 <sup>nd</sup> difference
Men, Male Nude	0.580***	0.039	0.580 – 0.881	
Men, Female Nude	0.881***	0.026	= -0.301***	-0.301 – -0.109
Women, Male Nude	0.647***	0.042	0.647 – 0.756	= -0.192***
Women, Female Nude	0.756***	0.038	= -0.109**	

Notes: \*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$ , two-tailed tests

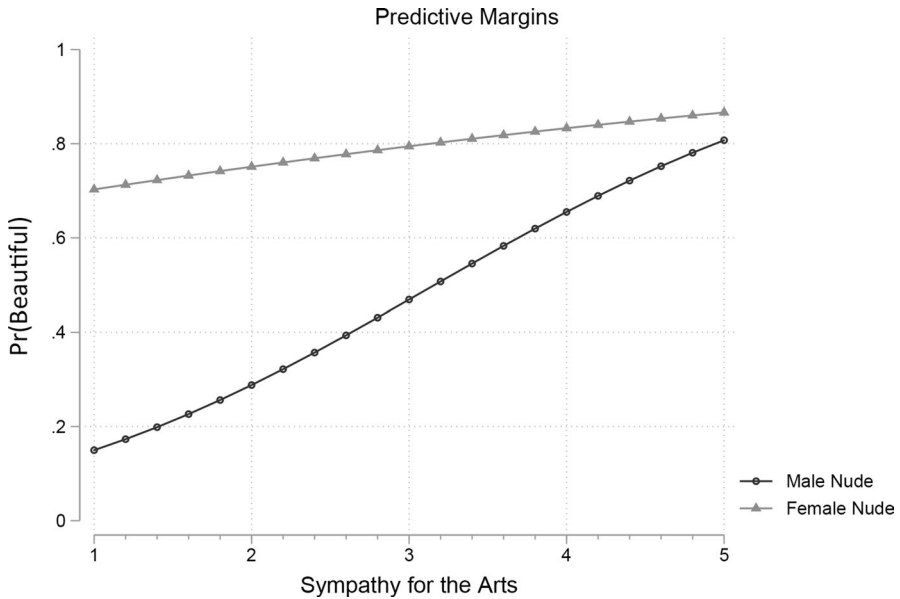


**Fig. 1** Probability of identifying a photo as 'beautiful' by respondent gender and model gender

### Sympathy for the arts

As can be seen in Fig. 2, respondents along the range of sympathy for the arts display a preference for female over male artistic nudity. However, there is a significant interaction between model gender and sympathy for the arts. Table 3 presents differences in marginal effects resulting from a unit increase on the scale of sympathy for the arts. The significant second difference means that the preference for female nudity is attenuated considerably with rising levels of artistic sympathy. That is to say, the likelihood of finding female nudity beautiful does seem to increase a bit





**Fig. 2** Probability of identifying a photo as ‘beautiful’ by model gender and respondent’s sympathy for the arts score (1–5)

**Table 3** Probability of respondent identifying image as ‘beautiful’ by model gender and sympathy for the arts (1-unit change) with test of interaction ( $N = 961$ )

	Margin	SE	1 <sup>st</sup> differences	2 <sup>nd</sup> difference
Male Nude, Art Sympathy (mean)	0.609***	0.028	0.609 – 0.764	
Male Nude, Art Sympathy (+1)	0.764***	0.046	= –0.155***	–0.155 – –0.034
Female Nude, Art Sympathy (mean)	0.823***	0.022	0.823 – 0.857	= –0.120**
Female Nude, Art Sympathy (+1)	0.857***	0.039	= –0.034	

Notes: \*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$ , two-tailed tests

with sympathy for the arts, but this is not significant. By contrast, the likelihood of finding male nudity beautiful increases to a much greater (and highly significant) extent, resulting in a declining gap between the evaluations of male and female nudity for people who are more sympathetic towards the arts. In fact, the difference between male and female nudity is no longer significant at the upper end of the scale of sympathy for the arts (Table D1 presenting the differences in marginal means





between male and female nudity at various points of the scale of sympathy for the arts can be found in Appendix D in the online supplement).

In sum, these findings do not provide strong support for hypothesis 2a, expecting that people with more sympathy for the arts would have a higher appreciation of artistic nudity in general, because the effect of sympathy for the arts is only observed unambiguously for male nudity. However, these results do manifestly confirm hypothesis 2b that sympathy for the arts would lead to less differentiation in aesthetic liking of male and female nudity. This may be considered an indication that artistic sympathies drive people to appreciate nudity for its artistic qualities, which depend less on the gender of the model depicted.

### Sexual conservatism

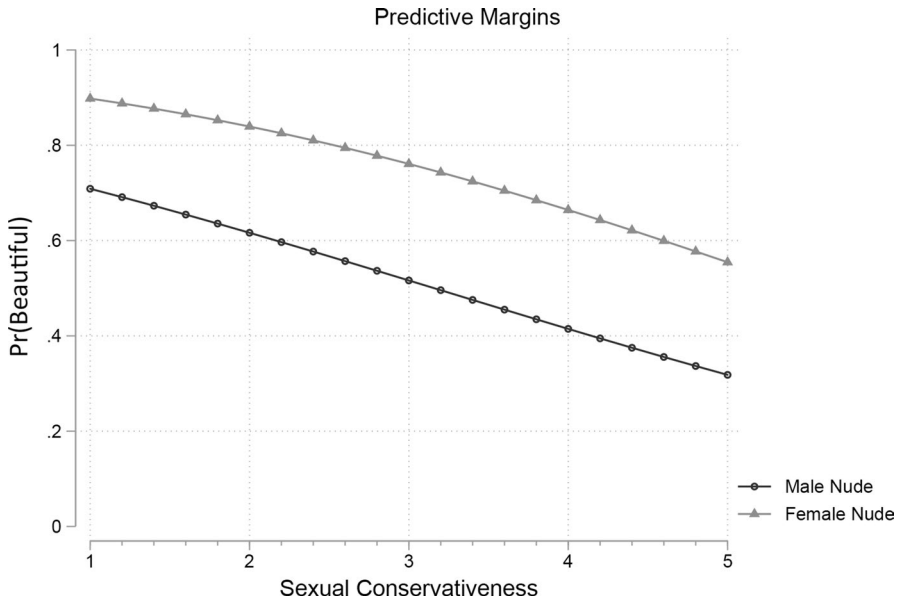
In contrast to the findings concerning sympathy for the arts, sexual conservatism makes it more likely that respondents will deny the beauty of artistic nudity. Again, people's values clearly affect appreciation, but in the opposite direction. In Table 4, the significant first differences for both male and female nudity imply that with rising levels of sexual conservatism, respondents are less likely to express aesthetic appreciation for either male or female nudity. However, the interaction between sexual conservatism and the gender of the nude model is not significant (as can be seen from the second difference). Female nudity is liked better at any level of sexual conservatism (Fig. 3). In confirmation of hypothesis 3a, sexually conservative people disapprove of nudity in general, but contrary to what hypothesis 3b expected, sexually conservative values do not imply an engagement with the male gaze. The disapproval of male nudity is not relatively stronger (or weaker) among sexually conservative people.

**Table 4** Probability of respondent identifying image as 'beautiful' by model gender and sexual conservatism (1-unit change) with test of interaction ( $N = 961$ )

	Margin	SE	1 <sup>st</sup> differences	2 <sup>nd</sup> difference
Male Nude, Sexual Conserv (mean)	0.609***	0.028	0.609 – 0.515	
Male Nude, Sexual Conserv (+1)	0.515***	0.046	= 0.094**	0.094 – 0.077
Female Nude, Sexual Conserv (mean)	0.823***	0.022	0.823 – 0.746	= 0.018
Female Nude, Sexual Conserv (+1)	0.746***	0.041	= 0.077*	

Notes: \*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$ , two-tailed tests





**Fig. 3** Probability of identifying a photo as ‘beautiful’ by model gender and respondent’s sexual conservativeness score (1–5)

### Cognitive deliberation

Based on the theoretical assumption that more deliberate considerations will take (slightly) longer, to get an idea of how much deliberation was involved in forming the previously reported assessments, we estimated the time respondents needed to arrive at a decision, accounting for the independent variables and controls included in the previous analyses.

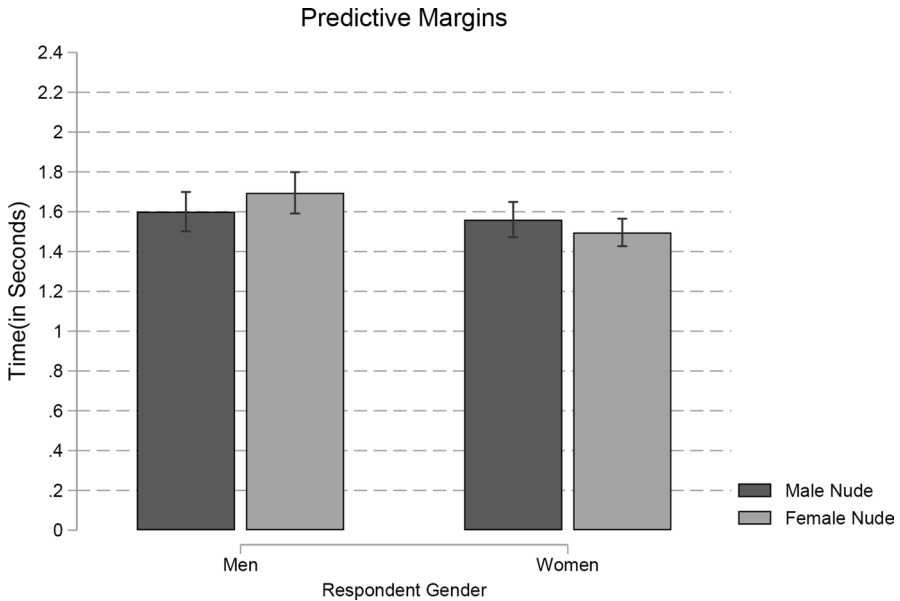
In contrast to the previous analyses, given the continuous nature of the timing variable, we no longer used binary logistic regression. However, due to issues of overdispersion (timing data have a right skew), Poisson regression analyses were applied using robust standard errors (rather than applying a log transformation [see: Cameron and Trivedi 2010, p. 575; Gould 2011], although results from log-transformed data are similar). Again, we used multilevel statistical analyses with random intercepts to account for the fact that data are clustered at the respondent level. This procedure is especially warranted for timing data, as some respondents may be slower or faster on average in this kind of task. Allowing the intercept to differ at the respondent level makes it possible to separate systematic patterns that can be attributed to the characteristics formally included in the model from mere individual differences in response speed. The resulting estimated effects across respondents (fixed effects) are, therefore, to be considered as differences in response time, regardless



of an individual’s average response time.<sup>1</sup> For consistency with the previous analyses, we will again present average marginal effects (extended regression models in Appendix C in the online supplement).

### Nude model and respondent gender

We find that gender of the nude model does not affect the response time to decide on how beautiful the photographs are ( $AME_{malemodel} = 1.58, SE = .07, AME_{femalemodel} =$



**Fig. 4** Predicted margins on time to decide if an image is ‘beautiful’ by respondent gender and model gender

**Table 5** Predicted time to decide if an image is ‘beautiful’ by respondent gender and model gender with test of interaction ( $N = 958$ )

	Margin	SE	1 <sup>st</sup> differences	2 <sup>nd</sup> difference
Men, Male Nude	1.60***	0.099	1.600 – 1.695	
Men, Female Nude	1.695***	0.104	= -0.095	-0.095 – 0.065
Women, Male Nude	1.560***	0.089	1.560 – 1.496	= -0.159
Women, Female Nude	1.496***	0.069	= 0.065	

Notes: \*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$ , two-tailed tests

<sup>1</sup> Significant variance in the random intercepts indicates that, indeed, respondents differ significantly in average speed, which does imply that the use of multilevel models is warranted. Moreover, highly significant positive effects are observed for respondents’ age. This is hardly surprising, as reaction speed is likely to go down with age. Although not informative in relation to any of the hypotheses, this finding does lend construct validity to the applied method.



1.61,  $SE = .07$ ,  $\Delta = -.03$ , *n.s.*). In other words, even though there is a clear aesthetic preference for female nudity, this is not the result of a faster deliberation process. Moreover, although the preference for female nudity was found to be attenuated considerably for female respondents compared to male respondents, when calculating first and second differences by respondents' gender, we find no interaction. This indicates that the response time for men and women does not depend on the gender of the nude model they evaluate (Fig. 4).

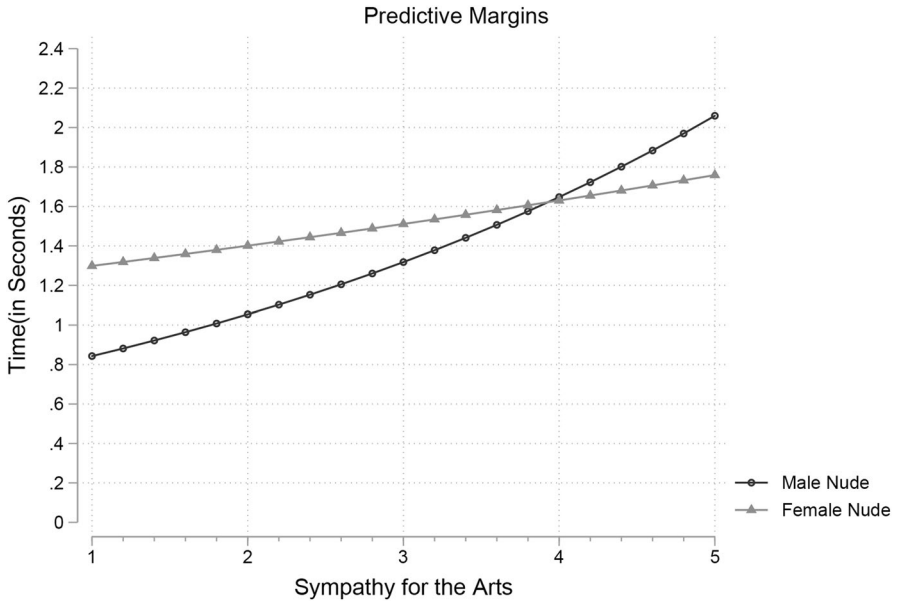
These findings support hypothesis 4a, stating that people's response time would not differ for aesthetic appreciation of male or female nudity. They, therefore, lend plausibility to the account that the male gaze works primarily through nondeclarative culture, as no additional consideration seems to go into evaluating male nudity (Table 5).

### Sympathy for the arts

When inspecting Fig. 5, sympathy for the arts seems to increase the response time for female nudity. However, the first difference resulting from a unit increase on the scale is insignificant (Table 6). By contrast, for male nudity the first difference is significant, meaning that people are slower to respond the more sympathetic values they hold towards the arts (as is also clear from the steeper line for male nudity in Fig. 5). This in turn results in a significant second difference, implying an interaction between sympathy for the arts and the nude model's gender. Having more sympathy for the arts increases response time, but only (significantly) in the case of responding to male nudity.

Respondents holding an average level of sympathy for the arts take about as much time to express their opinion on female and male nudity (Table D3 presenting the differences in marginal means between male and female nudity at various points of the scale of sympathy for the arts can be found in Appendix D in the online supplement). However, respondents who are less sympathetic towards the arts take significantly less time to respond to male nudity than they do in the case of female nudity. Taken together with the results concerning the scores that were awarded, it would seem that at below-average levels of artistic sympathy people are fast to express their disapproval of artistic male nudity, while taking more time to consider (and express appreciation for) female nudity. By contrast, people with above-average artistic sympathies take significantly longer to respond to male nudity than they do in reaction to female nudity. It should be recalled that at these levels of sympathy for the arts, appreciation for nudity no longer differed depending on the model's gender. We may, therefore, interpret these findings as follows. At the lower end of the scale, people disregard male nudity out of hand and only consider their opinion on female nudity somewhat carefully. At the upper end, they put in additional effort to appreciate male nudity and come to an evaluation that is less differentiated by model gender. We argue that this might be interpreted as a deliberate effort to overcome the male gaze to arrive at an appreciation of the pictorial qualities of the photographs, regardless of the gender of the model depicted. This finding, therefore, corroborates the interpretation of sympathy for the arts being a value that is part of declarative culture, which is activated more reflexively and deliberately, confirming hypothesis 5.





**Fig. 5** Predicted margins on time to decide if an image is ‘beautiful’ by model gender and respondent’s sympathy for the arts score (1–5)

**Table 6** Predicted time to decide if an image is ‘beautiful’ by model gender and sympathy for the arts (1-unit change) with test of interaction ( $N = 958$ )

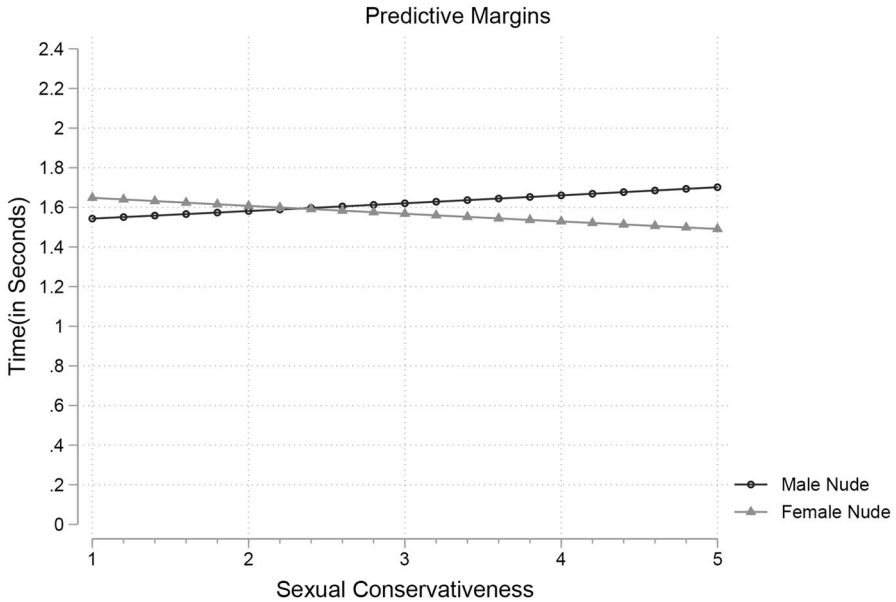
	Margin	SE	1 <sup>st</sup> differences	2 <sup>nd</sup> difference
Male Nude, Art Sympathy (mean)	1.582***	0.067	1.582 – 1.978	
Male Nude, Art Sympathy (+1)	1.978***	0.196	= -0.396*	-0.396 – -0.127
Female Nude, Art Sympathy (mean)	1.607***	0.065	1.607 – 1.733	= -0.269*
Female Nude, Art Sympathy (+1)	1.733***	0.154	= -0.127	

Notes: \*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$ , two-tailed tests

### Sexual conservatism

In contrast to what was hypothesized, sexually conservative values do not affect the time to come up with an aesthetic evaluation in any way (Fig. 6), neither directly, nor in interaction with the nude model’s gender (as is clear from insignificant first and second differences in Table 7). As a value orientation, sexual conservatism seems to operate differently than sympathy for the arts. While art-minded values appear to affect deliberate considerations, sexual conservatism does not. A possible explanation in line with our theoretical outlook might be that conservative values are more deeply inculcated and have an impact already at the level of gut-feeling responses.





**Fig. 6** Predicted margins on time to decide if an image is ‘beautiful’ by model gender and respondent’s sexual conservativeness score (1–5)

**Table 7** Predicted time to decide if an image is ‘beautiful’ by model gender and sexual conservativeness (1-unit change) with test of interaction ( $N = 958$ )

	Margin	SE	1 <sup>st</sup> differences	2 <sup>nd</sup> difference
Male Nude, Sexual Conserv (mean)	1.582***	0.067	1.582 – 1.621	
Male Nude, Sexual Conserv (+1)	1.621***	0.114	= -0.039	-0.039 – 0.040
Female Nude, Sexual Conserv (mean)	1.607***	0.065	1.607 – 1.567	= -0.079
Female Nude, Sexual Conserv (+1)	1.567***	0.089	= 0.040	

Notes: \*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$ , two-tailed tests

## Discussion and conclusion

In this study, we assessed people’s expressed aesthetic responses to artistic nude photographs and the time it took them to respond, as an indication of cognitive effort. Our findings clearly suggest that people’s stance on nudity depends on the perspective they take. Both men and women express a preference for female nudity, but this is far more pronounced among men. Our results, therefore, correspond to Eck’s (2003) findings, although they also suggest that women are less category specific when it comes to nudity. This is compatible with Mize and Manago’s (2018) notion of ‘precarious sexuality’. In line with Kimmel’s (1994) assertion that heterosexual men want to avoid doubt about their sexual orientation, these authors



claim that male heterosexuality is policed more strictly as it enjoys a higher status than other sexual identities (whether female or nonheterosexual). This may serve to explain why heterosexual men are more outspoken than heterosexual women in appreciating depictions of nudity that are in line with their sexual identity.

Moreover, we find that values to which people subscribe also affect appreciation of nudity. Sexual conservativeness reduces the probability of finding artistic nudity beautiful, while sympathy for the arts increases aesthetic liking. However, whereas sexual conservativeness has an impact irrespective of the gender of the nude model, artistic sympathies primarily lead respondents to discriminate less on the basis of the nude model's gender.

The meaning of the male gaze in relation to artistic nudity becomes clearer when looking beyond expressed opinions and also taking into account the cognitive effort made by viewers when responding to nudity. Response speed does not differ significantly among men and women and is also similar for male and female nudity. This suggests that the male gaze indeed operates at the level of nondeclarative culture, as the appreciation of male nudity does not cause cognitive challenge, neither for men nor women. However, sympathetic values towards the arts do drive people to consider their opinions slightly longer for male artistic nudity in particular. While people with less sympathy for the arts are fast to disapprove of male nudity and take more time to consider female nudity, people with above-average levels of artistic sympathies actually take more time to assess male nudity and express appreciation for male nudity that matches their liking of female nudity. In line with Lizardo's distinction between nondeclarative and declarative personal culture, art-minded people appear to check their expressed views on artistic nudity more systematically to the values they hold. Compared to people who do not care for the arts, people with stronger artistic sympathies put more thinking into male nudity. We conclude from this that a particular set of values in this case drives viewers to make an effort to overrule the male gaze.

By contrast, sexually conservative values have no impact on response time. The resulting disapproval of nudity, therefore, seems to be expressed more spontaneously. This is contrary to expectations. As a value orientation, sexual conservativeness was expected to also induce thorough consideration, similar to what we observe for artistic sympathies. We may speculate that this difference is due to these value systems being the result of socialization processes with distinctive characteristics. A sexually conservative stance is likely to be acquired durably throughout numerous socializing experiences in diverse settings, leading to routine responses. Although people are arguably capable of expressing their views on sexuality when requested (as a form of declarative personal culture), socialization on sexuality forms a frame of reference at the level of dispositions and associations. Hence, we observe a strong tie between declarative and nondeclarative culture. On the other hand, a sensitivity for artistic culture is possibly fostered through more formal learning experiences, taking place in particular circumstances. Placing value on the arts presumes qualitatively setting apart a few products that are considered extraordinary from other experiences. As a consequence, this value system may only be activated—reflexively—when certain conditions are met. In other words, people may only adhere to artistic values when encountering





art. We propose this to be a hypothesis that deserves further research, as it entails that an aesthetic disposition is not a general orientation that is brought to bear on any situation (as also argued by Lahire (2003) in reaction to Bourdieu's (1984) original claims).

Concluding, we argue that our findings make clear the relevance of a distinction between declarative and nondeclarative culture at the personal level. Meaningful patterns in response time indicate that people's reactions are the result of an interplay between deeper seated frames of reference and deliberate values.

We do acknowledge some important limitations to our findings. First, with 121 (straight) participants, our sample size was arguably quite small for the purpose of sociological study. Moreover, as the respondents were self-selected, a considerable degree of selection bias can be expected. In this vein, it should be emphasized that respondents could only participate after they had explicitly agreed to viewing both male and female nudity. As a consequence, only people with at least some level of tolerance of nudity are likely to have participated. However, if anything, both these limitations can be expected to have lessened the observed effects. The fact that many effects are still significant illuminates the importance of these factors in appreciating nudity. Future efforts should focus on replicating these analyses on more representative samples.

Also, we recognize that our choice of method is less sensitive to how certain attitudes are expressed. We agree that face-to-face interviews with open-ended questions enable a better grasp of the subtleties of the discourse surrounding a possibly sensitive topic such as nudity (choice of wording, apparent discomfort in bodily behaviour, ...). When reported through prestructured answer categories, expressions of appreciation are arguably simplified considerably. However, although the high level of systematicity of our method comes at a cost, it does allow to disclose cognitive activity that would go unnoticed in a qualitative data collection setting. We, therefore, argue for an integration of both methods in future studies.

This study had a focus on artistic nudity in particular, as the combination of art and nudity was likely to lead to cognitive ambiguity. However, the stimuli we presented were contemporary artistic nude photographs. We acknowledge that this is a limitation, as we have not studied other forms of artistic nudity. It might be argued that nude paintings or early photographic nudes would be more recognizably artistic. Given that the art frame may legitimate nudity to some extent, we may expect that such forms of nudity (male and female alike) would be appreciated more readily also by people with fewer artistic sympathies. Likewise, both explicit opinions and the underlying cognitive processes can be expected to differ when stimuli are presented that are manifestly at odds with the art frame. In such cases, we might observe similar effects of conservativeness and gender, but a smaller impact of artistic sensitivities on aesthetic appreciation. Moreover, male nudity may then receive less consideration. It would be interesting to study how different frames for nudity not only impact the opinions people express, but also the cognitive challenge they experience.

In contrast to situations of more sexually explicit stimuli, it would also be interesting to explore artistic encounters in general. As we have tentatively argued that people who value the arts consider artistic evaluation more thoroughly in particular



in situations that suggest an artistic encounter, it remains to be seen whether they would also take more time to aesthetically appreciate material that is not of a sexual nature in any way.

In sum, notwithstanding the many interesting questions that remain, this exploration of artistic nudity has illustrated that taking into account cognitive processes involved in the expression of opinions substantiates that the male gaze leads to nondeclarative preferences. Simultaneously, such embodied preferences can be actively monitored by declarative culture and adjusted accordingly in what may be represented as an inner struggle between embodied inclinations and reflexive considerations.

**Supplementary Information** The online version contains supplementary material available at <https://doi.org/10.1057/s41290-022-00152-7>.

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