Effects of attitudes toward pornography upon male judgments of female attractiveness

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Male subjects differing in attitudes toward pornography rated the attractiveness of female models obtained from sources ranging from fashion magazines to *Penthouse*. The pictures were either presented intact (Study 1) or with obliterated faces (Study 2). Neutral and pro-pornography subjects used very similar rules to judge intact pictures. Both preferred nude or seminude models to clothed models, and both were more positive in their ratings than anti-pornography subjects, whose ratings for the three categories of models were essentially the same. Obliterating nude models' faces had no effect upon the pro-pornography subjects but lowered the attractiveness ratings of the other subjects. Consequently, the facial obliteration separated the pro-pornography subjects from neutrals. Anti- and pro-pornography subjects thus both differ from neutrals, but for different reasons: Anti-pornography subjects tend to respond differently from neutrals to female models in general, but pro-pornography subjects respond differently from neutrals only when judging erotic stimuli lacking facial features.

Bernstein, Lin, and McClellan (1982) had subjects of different ethnicity (Taiwanese vs. white Americans in one study; black vs. white Americans in a second study) judge the attractiveness of common sets of yearbook pictures in order to study similarities and differences in their judgmental structures. They found that the groups were equally consistent in their judgments, in that intercorrelations among members of a group were similar for different groups. However, the judgments of the different groups were separable in that members of different groups tended not to correlate as highly as members of the same group. The outcome indicates the groups used different rules to define attractiveness but were equally consistent in applying their own rules. The authors described the outcome as model "B" in contrast to three other possible models.

Groups behaving in accord with Bernstein et al.'s model "A" would use equivalent rules (rules leading to the same judgments) and would apply the rules with equal consistency. The rules need not be identical. Although we know of no relevant data, it is probable that various cues to attractiveness are not independent of one another. Thus, given a suitably wide range of individual differences, it seems reasonable that judgments of a model's eyes would

not be independent of judgments of a model's mouth, and so forth. Consequently, even if one judge paid exclusive attention to models' eyes and a second judge paid exclusive attention to models' mouths, the ratings of the two judges would be correlated. Groups behaving in accord with model "C" would use equivalent rules but not apply their rules with the same consistency. Finally, groups behaving in accord with model "D" would use different rules and apply the rules with different consistency.

Despite the separability, the factor correlations (the correlations between the mean rating of one group and the mean rating of another group) were high. For example, the correlations between Taiwanese and white Americans ranged from .76 to .82 even without a correction for random error of measurement. Not surprisingly, correlations between black and white Americans were even higher, ranging from .91 to .96.

The group comparisons involved a form of confirmatory factor analysis—the method of oblique multiple groups (OMG). The OMG method is discussed in Harman (1976) and Gorsuch (1983). Recent examples of its application to psychometric problems may be found in Bernstein and Eveland (1982) and Bernstein and Garbin (1985a, 1985b).

STUDY 1

Study 1 was concerned with the consistency and separability of judgments made by white Americans who differed in their attitudes toward pornography. The issue was chosen because there is a tradition of studies which con-

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trast extreme groups variously identified as "erotophobes" and "erotophiles" (Fisher, Miller, Byrne, & White, 1980), sexual "conservatives" and "liberals" (Wallace & Wehmer, 1972), "prudes" and "pornographiles" (Yuen & Ickes, 1985), among others (the terms are not strictly synonymous, inasmuch as the defining questionnaires are not the same, but it is common to treat them as equivalent; see Baron & Byrne, 1984).

Several studies have examined male preferences for pictures of attractive females that differed in their erotic content as a function of attitudes toward pornography. Perhaps not surprisingly, one finding is that pro-pornography subjects both indicate a preference for stimuli rated as more erotic (literally rated as more "entertaining"; Wallace & Wehmer, 1972) and look longer at the stimuli (Love, Sloan, & Schmidt, 1976). There is less convergence for anti-pornography subjects, with Wallace and Wehmer (1972) reporting that their subjects found the stimuli rated more erotic as less "entertaining," and Love et al. (1976) finding no difference in looking time as a function of erotic content.

In addition to employing factor analysis to study the *consistency* and *separability* of judgments as a function of attitudes toward pornography, the study to be presented differs from earlier studies in three other respects. First, a neutral group was included in order to place potential differences between extreme groups in clearer context. Studies examining the consequences of differences in attitudes toward pornography typically do not include a neutral group, although Love et al. (1976) is an exception. Second, the stimuli as a group were intended to be less obviously erotic, and the subjects were asked to rate the "attractiveness" rather than the "arousal" or "erotic nature" of the stimuli. Both procedures were employed to minimize the subjects' defensiveness. Finally, our stimuli were derived mainly from fashion magazines, such as *Vogue*, and popular sources, such as *People Magazine*, although we also included some pictures containing genitalia (*Penthouse* photographs) to provide variation in the erotic content of the stimuli.

Method

Subjects. Sixty male subjects were recruited from day classes in introductory psychology at the University of Texas at Arlington. A measure of attitudes toward pornography used by Yuen and Ickes (1985) was administered to all students enrolled in the course at the beginning of the semester. The subjects were divided into anti-pornography, neutral, and pro-pornography groups ($n = 20$ each) on the basis of the scale.

Scores on attitudes toward pornography can and did range from 0 (*very strongly against and never look at pornography*) to 26 (*very strongly in favor of and frequently look at pornography*). The mean and standard deviation for introductory psychology students as a whole ($N = 502$, including males and females) were 9.93 and 5.55. The distribution was somewhat negatively skewed despite the relatively conservative nature of the region.

Subjects were assigned to the anti-pornography, neutral, and pro-pornography groups on the basis of scores that fell in the bottom, middle, and top third of the overall distribution, respectively. Anti-pornography subjects had a mean of 8.05, a standard deviation of 3.30, and a range of 0 to 11; neutral subjects had a mean of 14.45,

a standard deviation of .51 and a range of 14 to 15; and pro-pornography subjects had a mean of 19.60, a standard deviation of 2.56, and a range of 17 to 24.

Stimuli. A series of 200 pictures of women were obtained from various sources, ranging from *Playboy* and *Penthouse* to *Vogue* and *People Magazine*. The experimenters classified the pictures into nine categories: full figure with clothes ($N = 48$), head only ($N = 28$), leg only ($N = 18$), upper part only with bra or transparent dress ($N = 17$), upper part only with clothes ($N = 18$), upper part only nude ($N = 17$), full figure nude exposing the genitalia ($N = 22$), full figure nude without exposing the genitalia ($N = 14$), and full figure with transparent dress ($N = 18$). We will present analyses relevant to the classifications below. All pictures were photographed as slides.

Design and Procedure. The subjects were run individually or two at a time. The subjects run in pairs were allowed to interact only minimally in order to prevent the audience effects reported by Yuen and Ickes (1984). At the beginning of the session, the subjects were instructed in the use of the 5-point rating scale (5 = *most attractive*) and, to establish a frame of reference for their judgments, were shown 20 sample stimuli not used in the picture set. The slides were presented at an exposure duration of 5 sec. The stimuli were contained in four trays of 50 each. The order in which the trays were presented was randomized over subjects.

Results

Stimulus structure. The 9×9 matrices formed by averaging ratings within stimulus categories were correlated over the 60 subjects (intercorrelating ratings of the 200 individual pictures was not appropriate since the correlations were based on only 60 observations). The matrices were then factored by the method of principal components (PCs), and the resulting factors were rotated to a varimax criterion.

The first three eigenvalues of the matrix were 5.14, 2.52, and .57, which clearly supports a two-factor structure. The first two dimensions account for 85.1% of the total variance.

The left side of Table 1 contains the rotated factor loadings. Factor 1 represents the ratings of nude models, and Factor 2 represents the ratings of clothed models. Models wearing transparent clothing are rated in a manner reflecting both dimensions. The findings may not describe ratings in general, since different types of models were obtained from different sources. The dimensionality reflects the fact that ratings of a clothed model, unlike ratings of a nude model, were influenced by her clothing.

Rating means and standard deviations. We next computed the mean and standard deviation of each subject's

Table 1
Factor Loadings of Stimulus Categories

Stimulus Category	Study 1		Study 2	
	Factor 1	Factor 2	Factor 1	Factor 2
Head only	.133	.913		
Fully clothed	.048	.924	.056	.929
Leg only	.222	.687	.124	.928
Upper clothed	.100	.963	.101	.963
Upper transparent	.750	.541	.607	.714
Fully transparent	.883	.305	.774	.559
Upper nude	.961	.148	.898	.343
Fully nude (no genitalia)	.959	.078	.965	.132
Fully nude (genitalia)	.946	-.036	.890	.199

ratings in order to examine their use of the rating scale. Both dependent variables were evaluated as a function of type of model and attitudes toward pornography. Type of model was classified as nude, seminude, and clothed. The nude models consisted of the upper-nude, fully nude (no genitalia), and fully nude (including genitalia) categories. The seminude models consisted of the upper-transparent and fully transparent categories. The clothed models consisted of the head-only, fully clothed, leg-only, and upper-clothed categories (other analyses which took the two-dimensional structure of the stimuli more into account led to conclusions that were equivalent to those to be presented). The results are presented in the top half of Table 2.

Analysis of variance (ANOVA) of the rating means indicated that the main effect of attitude toward pornography was significant [$F(2,57) = 4.40, p < .05, MSe = .70$], which reflects the tendency for anti-pornography subjects to make model ratings lower (as less attractive) (mean = 3.06) than do neutral (mean = 3.47) and pro-pornography subjects (mean = 3.43). There was also a type of model main effect [$F(2,114) = 28.08, p < .001, MSe = .19$], which reflects higher ratings for nude (mean = 3.53) and seminude models (mean = 3.45) than for clothed models (mean = 2.98). Finally, the interaction between type of model and attitudes toward pornography was also significant [$F(4,114) = 3.34, p < .05, MSe = .19$]. The interaction denotes the fact that anti-pornography subjects rated the three model types equivalently, unlike the subjects in the other two groups, who preferred nude and seminude models. Specific comparisons were used to examine the details of the ANOVA,

Table 2
Mean and Standard Deviation of Attractiveness Ratings

Attitude		Type of Model					
		Clothed		Seminude		Nude	
		Mean	SD	Mean	SD	Mean	SD
Study 1							
Anti	$\bar{X}$	2.94	1.11	3.16	0.88	3.09	0.82
	<i>s</i>	.43	.16	.50	.21	.72	.19
Neutral	$\bar{X}$	3.02	1.06	3.60	0.87	3.80	0.89
	<i>s</i>	.45	.28	.44	.17	.52	.22
Pro	$\bar{X}$	2.99	1.04	3.60	0.89	3.70	0.82
	<i>s</i>	.62	.20	.59	.17	.84	.29
Study 2							
Anti	$\bar{X}$	2.74	0.89	3.21	0.93	2.62	0.85
	<i>s</i>	.63	.19	.66	.20	.81	.28
Neutral	$\bar{X}$	2.91	0.91	3.56	0.86	3.38	0.90
	<i>s</i>	.61	.27	.59	.21	.50	.24
Pro	$\bar{X}$	2.77	0.86	3.53	0.82	3.50	0.80
	<i>s</i>	.78	.23	.64	.19	.62	.24

Note—The data in columns denoted "Mean" are derived from the mean ratings of individual subjects over stimuli. The means of the mean ratings are contained in the rows denoted " $\bar{X}$," and the associated standard deviations are in the rows denoted "*s*." The data in columns denoted "SD" are derived from the standard deviations of the individual subject's ratings over stimuli. The means of the standard deviations are also contained in the rows denoted " $\bar{X}$," and the associated standard deviations are in the rows denoted "*s*."

but the results do not add to the conclusions and consequently will not be presented.

The ANOVA of the standard deviations failed to indicate a group difference. However, clothed models evoked more variable ratings (mean of $s = 1.07$) than seminude (mean of $s = .88$) or nude (mean of $s = .84$) models [$F(2,114) = 38.75, p < .001, MSe = .02$]. The greater variability in judgment of clothed models is not surprising and reflects the separable effects of how the model herself is perceived and how her clothing is perceived.

Group factor structures. We next obtained correlations between pairs of subjects over the 200 ratings, as done by Bernstein et al. (1982), to examine group differences from a different perspective. The resulting 60×60 correlation matrix has nine "important" PCs, that is, PCs with eigenvalues > 1.0 , which reflects individual differences in preference that are above and beyond those attributable to attitudes toward pornography. However, the first two PCs accounted for 50.4% of the total variance and the third accounted for only 3.2%, so the data structure is actually more concentrated than that observed by Bernstein et al. (1982).

The first PC accounts for 39.3% of the total variance, which is, by definition, the maximum amount of variance that any one factor can account for. The first centroid factor, which weights subjects equally rather than optimally, accounts for nearly as much variance (39.0%). The .3% difference, though small in an absolute sense, is actually slightly larger than the differences observed by Bernstein et al. (1982), who failed to find a difference larger than .1% in any of their comparisons.

Part of the 11.1% difference between the "one-PC" and the "two-PC" models (39.3% vs. 50.4%) is due to the bias inherent in fitting the data with one versus two predictors. We have discussed the problem of comparing models with different numbers of factors in our previous research (Bernstein & Eveland, 1982; Bernstein & Garbin, 1985a, 1985b; Bernstein et al., 1982). Our solution to the problem is to form "pseudofactors," which Bernstein et al. (1982) termed "random factors." A two-pseudofactors model is obtained by assigning variables (subjects in the present case) to two factors arbitrarily, that is, independently of their group membership. A two-pseudofactors model is used rather than a one-PC or one-centroid model to determine if more than one factor is needed.

A representative two-pseudofactors result is 40.5%. The results is "representative" because it refers to the results of only one of many possible ways to form a two-pseudofactors model. The fit is 1.5% better than the fit of a one-centroid model. Corresponding differences observed by Bernstein et al. (1982) ranged from 1.7% to 2.7%.

In the "anti-versus-all-others" model, the group centroid or average of the anti-pornography subjects defines one factor and the group centroid of the remaining subjects defines the second factor. Consequently, the two factors differ systematically from one another and not ar-

bitrarily. The resulting fit is substantially better (47.1%) than that of the two-pseudofactors model. It also compares favorably with the two-PCs model (50.4%) or upper limit.

When one group centroid is formed from the subjects in the neutral group and a second group centroid is formed from the remaining subjects, the resulting neutral-versus-all-others model (43.2%) does not fit nearly as well as the anti-versus-all-others model and barely fits better than the two-pseudofactors model. A similar pattern is found for the pro-versus-all-others model (43.5%), defined by assigning the pro-pornography subjects to one factor and all remaining subjects to a second factor.

The first three PCs account for 53.6% of the total variance. The anti-versus-neutral-versus-pro model, in which each group is represented by its respective centroid, accounts for 48.5% of the variance. The fit compares favorably with the fit of the three-PCs model, or upper limit, at first glance. However, let one factor be defined as the group centroid of the anti-pornography subjects, a second factor be defined by 10 randomly chosen neutrals and 10 randomly chosen pro-pornography subjects, and the third factor be defined by the remaining 10 neutrals and 10 pro-pornography subjects. The resulting anti + two-pseudofactors model also accounts for 48.5%. Thus, the apparent good fit of the model defined by assigning subjects in each of the three groups to separate factors simply reflects the previously made point that anti-pornography subjects differ from neutral and pro-pornography subjects, not that neutral and pro-pornography subjects differ from one another.

In a like manner, a neutral-versus-two-pseudofactors and a pro-versus-two-pseudofactors model can be formed. Neither fits as well as the anti-versus-two-pseudofactors model. The result again reflects the point that the anti-pornography group is the most different of the three groups. The left side of Table 3 summarizes the results of the various models.

The factor correlation is .884 for the anti-pornography and neutral groups, .842 for the anti-pornography and pro-pornography groups, and .929 for the neutral and pro-pornography groups. The correlations describe the similarity of the respective pairs of groups and provide another way to illustrate that the neutral and pro-pornography groups were most highly similar in their judgments of attractiveness. All three correlations are quite high in an absolute sense, which attests to the highly similar concept of attractiveness that subjects possess, as Bernstein et al. (1982) also noted.

There are no standard inferential tests to determine how much of a role chance plays in determining differences among different types of models, for example, two PCs versus the anti versus all others. However, it is possible to obtain a crude estimate of sampling error in a given pseudofactor model by assigning different subjects to pseudofactors under a given constraint. For example, two-pseudofactors models can be formed in $C(20,10)^3$ ways, where $C(20,10)$ is the number of combinations of 20 things taken 10 at a time. The number of different two-

Table 3
Percentage of Total Factor Variance Accounted
for by Alternative Models

Models	Study 1	Study 2
One-factor models		
One PC	39.3	31.1
One centroid	39.0	30.4
Two-factor models		
Two PCs	50.4	48.3
Anti vs. all others	47.1	44.7
Neutral vs. all others	43.2	34.9
Pro vs. all others	43.5	42.5
Two pseudofactors	40.5	31.7
Three-factor models		
Three PCs	53.6	51.7
Anti vs. Neutral vs. Pro	48.5	46.1
Anti vs. Two pseudofactors	48.5	46.6
Neutral vs. Two pseudofactors	44.8	36.1
Pro vs. Two pseudofactors	45.0	44.0
Three pseudofactors	41.7	36.5

Note—PC = principal components.

pseudofactors models is the number of ways 10 of the 20 subjects in each group can be chosen for assignment to the first pseudofactor. The subjects comprising the second pseudofactor are then determined. The distribution of percent of variance accounted for obtained from a random sample of all possible assignments thus estimates the sampling error of the particular model.¹

We ran 100 independent two-pseudofactors solutions. Only one of them accounted for as much variance as the anti-versus-all-others model. Similarly, only one three-pseudofactors outcome accounted for as much variance as the two models in which the anti-pornography subjects were treated separately (the anti-versus-neutral-versus-pro and the anti-versus-two-pseudofactors models). Consequently, the tendency for anti-pornography subjects' judgments to cluster appears stronger than chance. On the other hand, 67 of the 100 anti-versus-two-pseudofactors models accounted for as much variance as the anti-versus-neutral-versus-pro model, so the difference between these two particular models appears to be due to chance.

Interjudge reliability within groups. Coefficients alpha were obtained for each group as an estimate of interjudge reliability. The values of alpha were .920, .936, and .901 for the anti-pornography, neutral, and pro-pornography groups, respectively. The fact that the values are similar implies that the average correlation between pairs of members within each group is the same for the three groups. The result also implies that each group is equally consistent with respect to its own set of rules (criteria) that define attractiveness.

STUDY 2

The results of Study 1 are that male neutral and pro-pornography subjects use equivalent rules to define attractiveness when presented with pictures of females that can be described as ranging from moderately to extremely erotic. By virtue of their preference for nude and semi-

nude as opposed to clothed models, both differ from anti-pornography subjects, who rate the three categories equally on average as well as lower in terms of their attractiveness ratings. However, all three groups were equally consistent among themselves in terms of their own rules defining attractiveness.

In Study 2, we altered the stimuli by obliterating the facial features. The manipulation was an exploratory attempt to see if the neutral and pro-pornography subjects could be separated. It was chosen because of the obviously important role that the face (which Cicero, cited in Baron & Byrne, 1984, termed the "image of the soul") plays in person perception. If subjects in one of the groups were to pay less attention to facial features than subjects in the other groups, their ratings would be less affected by the deletion.

Method

Subjects. Subject recruitment and group definition was generally the same as in Study 1. Specifically, pro-pornography, neutral, and anti-pornography subjects fell in the top, middle, and lower third of Yuen and Ickes's (1985) scale based upon the overall distribution. Subjects were recruited until the 20-subject/group quota was filled. One slight change was that students volunteered for the experiment via a sign-up sheet and were administered the scale when they were run. Consequently, more than 60 students were recruited, but some were dismissed when the 20-subject quota for each group was met.

Anti-pornography subjects had a mean score on the Yuen/Ickes Attitudes Towards Pornography Scale of 9.10, a standard deviation of 2.93, and a range of 0 to 11; neutral subjects had a mean of 14.25, a standard deviation of .25, and a range of 12 to 15; and pro-pornography subjects had a mean of 17.40, a standard deviation of 1.76, and a range of 16 to 25.

Stimuli. The stimuli were a subset of those used in Study 1 and were obtained by obliterating the faces in the pictures. The pictures used in Study 1 without a face were left unaltered. The 28 head-only pictures and two others in which deletion of the face left little for the subject to judge were dropped. The remaining 170 pictures were placed in three trays of 50 pictures each and one tray of 20 pictures.

Design and Procedure. Except for the fact that the subjects completed the Yuen/Ickes questionnaire at the beginning of the experimental session, the procedure was identical to Study 1, including the randomization of slide trays over subjects.

Results

Stimulus structure. The first three eigenvalues obtained from factoring the 8×8 matrix of intercorrelations among the average ratings within stimulus categories were 5.02, 2.23, and .30. The results again support a two-factor solution, which accounts for 90.6% of the total variance. The two rotated factors, whose loadings are presented on the right side of Table 1, again represent ratings of nude models (Factor 1) and ratings of clothed models (Factor 2).

Rating means and standard deviations. The bottom half of Table 2 contains the rating means and standard deviations as a function of attitudes toward pornography and type of model. The main effect of attitudes toward pornography, type of model, and the interaction were all significant in the ANOVA of rating means [$F(2,57) =$

3.83, $p < .05$, $MSe = .90$; $F(2,114) = 26.55$, $p < .001$, $MSe = .22$; and $F(4,114) = 4.40$, $p < .01$, $MSe = .22$, respectively]. Anti-pornography subjects again rated the models in general lower (mean = 2.86) than did the neutral (mean = 3.28) or pro-pornography subjects (mean = 3.27). Seminude models were rated more positively (mean = 3.43) than nude models (mean = 3.17), unlike Study 1, in which there was a trend in the opposite direction. Clothed models were again rated lowest (mean = 2.81).

Even though the interaction was again significant, its form was slightly different from that observed in Study 1, in which both neutral and pro-pornography subjects tended to prefer nude models over seminude models. Neutral subjects here tended to prefer seminude over nude models, but the pro-pornography subjects rated the two categories almost equally. Both groups continued to prefer nude and seminude models to clothed models.

Only 170 of the original 200 stimuli used in Study 1 could be used in Study 2 because obliterating the faces of certain pictures essentially left nothing for the subjects to rate. The number that were deleted differed among the three type-of-model categories. Consequently, it is difficult to interpret the overall mean difference between studies or mean differences due to type of model. Therefore, we will not report the results of an ANOVA with the two studies as a factor.

However, the same changes were made in each of the three attitudes-toward-pornography groups so that the differential effect of the change upon the three groups is interpretable. Obliterating a clothed model's facial features had essentially the same effect upon all three groups, since the mean differences between studies were nearly the same, ranging from .11 among neutrals (3.02 vs. 2.91) to .22 for pro-pornography subjects (2.99 vs. 2.77). Mean differences were even smaller, being at most .07 (3.60 vs. 3.53) for the pro-pornography subjects when a seminude model's face was obliterated. In no case did a mean difference approach significance. However, obliterating a nude model's face produced a large decrease in rated attractiveness for anti-pornography subjects (.47) and neutral subjects (.42), both of whom differed significantly from .0 ($t = 1.89$ and 2.53 , $p < .05$ and $.01$, $MSe = .06$ and $.03$, respectively); it was half that magnitude (.20) and not significant for the pro-pornography subjects ($t < 1.0$, $MSe = .07$) ($df = 38$ in all three comparisons).

Neither main effect nor the interaction was significant in the ANOVA of the rating standard deviations. Relative to Study 1, obliterating the model's faces reduced the variability of the ratings of the clothed models equivalently in all three groups but had essentially no effect upon the ratings of seminude or nude models.

Group factor structures. Eleven PCs derived from the 60×60 matrix of correlations among subjects over the 170 stimuli had eigenvalues greater than 1.0. The anti-versus-all-others model clearly fits better than the two-pseudofactors model (44.7% vs. 31.7%) and is fairly close to the ceiling imposed by the first two PCs (48.3%). The

pro-versus-all-others model fits less well at 42.5%. And the neutral-versus-all-others model, at 34.9%, barely fits better than the two-pseudofactors model. The results are given in the right side of Table 3.

The extremely poor fit of the neutral-versus-all-others model is due to the fact that obliterating nude models' facial features places neutrals' judgments intermediate to the two other groups. When one or more pseudofactors are formed from the remaining subjects, half of the resulting correlations involve relatively dissimilar pairs of anti-pornography and pro-pornography subjects. The resulting model accounts for less variance than ones defined by more highly similar subjects, which is the intent of the analysis. Results of the multiple simulations showed that only one of the 100 two-pseudofactors results accounted for as much variance as the anti-versus-all-others model, and only three results accounted for as much variance as the pro-versus-all-others model. By contrast, 43 results obtained from two-pseudofactors models accounted for as much variance as the neutral-versus-all-others model.

Treating all three groups separately accounts for 46.1%, but forming one factor from the anti-pornography subjects and two others as pseudofactors actually fits slightly better at 46.6% (though by chance, as suggested by the results of the multiple simulations).

The correlation between the anti-pornography and neutral groups is .779; the correlation between the anti-pornography and pro-pornography groups is .647; and the correlation between the neutral and pro-pornography groups is .906. The three groups are more separable than they were in Study 1. The fact that the correlation between anti-pornography and pro-pornography subjects (.647) is nearly the same as the product of the correlations between each of groups and the neutrals ($.706 = .906 \times .779$) implies that the group differences fall along one dimension.² Neutrals fall closer to the pro-pornography subjects along the dimension because the neutral/pro-pornography correlation is higher than the neutral/anti-pornography correlation.

Interjudge reliability within groups. The alpha coefficients were .879, .898, and .897 for the anti-pornography, neutral, and pro-pornography groups, respectively. Hence, the three groups again applied their definitions of attractiveness with equal consistency.

DISCUSSION

Male anti-pornography subjects use criteria for attractiveness that are slightly different from those used by either male neutral or pro-pornography subjects, but all three groups are equally consistent with respect to their own rules when shown a representative set of attractive females. The outcome corresponds to Bernstein et al.'s (1982) "B" model. However, neutral and pro-pornography subjects behave in accord with their "A" model, which means that two groups use equivalent rules as well as apply the rules with equal consistency.

One effect of obliterating facial features is to make neutral and pro-pornography subjects more separable so that they, too, fit the "B" model. There are two possible explanations of why the two groups did not differ when shown intact faces but did differ when shown obliterated faces: (1) Their original rules governing judgments of intact pictures were equivalent, but not identical, or (2) either one or both groups changed the rules they used in the ordinary case of judging intact faces when asked to judge obliterated faces. The latter appears to be a less parsimonious explanation.

The fact that the subjects in each of the groups applied their rules with equal consistency separates our results from those postulated by two other models in which there are group differences in consistency. It means that all of the groups have equally well-defined rules upon which to make their judgments. The consistency (coefficient alpha) data do not speak to the nature of the rules by themselves. The fact that Bernstein et al. (1982) took all of their stimuli from homogeneous pools of yearbook pictures made it difficult to specify the precise nature of ethnic differences in the criteria governing the attractiveness judgments they found.

However, stimuli in the present study were structured into nude, seminude, and clothed categories. We could therefore infer that the dimension was incorporated in the rules used by neutral and pro-pornography subjects but not in those used by anti-pornography subjects. Similarly, the difference between Studies 1 and 2 indicates that facial features play less of a role in the judgments of pro-pornography subjects when they judge nudes than they do in the judgments of other subjects; the roles played by facial features are, however, fairly common to all subjects when they are judging clothed models.

It is not presently clear why pro-pornography subjects use different cues in judging nude versus clothed models. Likewise, although we found that anti-pornography subjects rated all models more negatively than did other subjects, we do not know the generality of their negative ratings or even if they have any meaningful behavioral implications. It may simply reflect a stylistic use of the rating scale. For example, Bernstein et al. (1982) found that Taiwanese subjects varied their ratings less than white Americans, but their ratings were not range restricted because they were as reliable as white Americans. Hence, white Americans simply preferred to use the extremes of the rating scale more than Orientals did.

Love et al.'s (1976) study of preferences for different types of models differs from ours in four main respects: They defined their groups on the basis of a different scale, Mosher's (1966) Sex Guilt Survey; they used a wider range of stimuli, including those explicitly depicting sexual intercourse; they obtained several measures in addition to attractiveness ratings, which included obscenity ratings, background data, and, especially, looking times; and they were not as concerned with structural (correlational) issues. Their main finding was that looking time increased monotonically with obscenity rating (their

terminology) for low sex-guilt subjects, increased then decreased by an average of 5 sec at the highest obscenity level for moderate sex-guilt subjects, and was statistically flat for high sex-guilt subjects. Excluding the most obscene stimulus category (which corresponds to stimuli we excluded), the low and moderate sex-guilt subjects showed equivalent increases in looking time with increased obscenity rating.

Consequently, their relation between looking times and obscenity rating in moderate and low sex-guilt subjects parallels our relation between attractiveness rating and type of model for neutral and pro-pornography subjects. Similarly, the independence of looking time and obscenity rating they found among high sex-guilt subjects parallels the independence of attractiveness rating and degree of dress in anti-pornography subjects that we found. Both findings differ from Wallace and Wehmer's (1972) findings that anti-pornography subjects find less obviously erotic stimuli more "entertaining." In contrast to our results, Love et al. (1976) found no group differences in mean attractiveness ratings and, unfortunately, did not present the more crucial within-groups correlations between attractiveness and obscenity. We found it surprising that the authors reported no overall correlation between looking time and attractiveness ratings. Perhaps both the lack of correlation and lack of group mean difference reflect the greater diversity of ratings that their subjects had to make; because we limited our subjects to a single rating of attractiveness, it is possible that our subjects concentrated more upon rating attractiveness and were more reliable as a consequence.

In sum, we find differences within the white American male culture that we previously found between cultures in ratings of attractiveness, with, in both cases, the similarities of the judgments being at least as striking as the group differences. Our findings with respect to judgments of attractiveness and attitudes toward pornography are not unlike those found by Love et al. (1976) with respect to looking time and sex-guilt. Overall, both extreme groups differ from neutrals, but apparently for different reasons. One issue for future consideration is other potential consequences of the lack of attention to facial features that pro-pornography subjects seem to demonstrate when reacting to erotic stimuli.

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NOTES

1. The number of pseudofactor results that account for more variance than the designated model only approximates a significance level because a true significance test would also include the sampling error of the substantive model with which it is compared. There is presently no way to assess the sampling error associated with the substantive model, because it is unique, unlike pseudofactor models, which form homogeneous classes.

2. The result follows from the Cauchy-Schwarz or "triangle" inequality which states that A, B, and C are collinear to the extent the sum of the distances from A to B and from B to C equal the distance from A to C. Correlations are measures of similarity and not distance, but Luce (1963) has pointed out how the two are logarithmically related. If the product of two similarity measures equals a third similarity measure, the sum of the two distances will equal the third distance.

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