

**EROTIC, PORNOGRAPHIC, OR OBSCENE:
FACTORS INFLUENCING THE PERCEPTION
OF PHOTOGRAPHS OF THE NUDE**

JOSEPH J. McDOWALL

Queensland College of Art, Griffith University, Australia

ABSTRACT

Considerable attention has been directed in the literature to exploring the pornographic or obscene nature of images depicting sexual content, however relatively few studies have attempted to investigate possible desirable aspects of such material by discriminating between these concepts and the erotic. This study required 37 female and 22 male visual arts students to complete two measures of their visual aesthetic response and their sexual interest and orientation before applying a semantic differential to reveal differences in individuals' understanding of the concepts erotic, pornographic, and obscene. They then rated 150 color and monochrome photographs depicting single and multiple female and male nudes in terms of how erotic, pornographic, or obscene they were perceived to be, and how much liking and pleasingness they elicited in the viewers. Erotic as a concept clearly was differentiated from the others by association with positive descriptors (e.g., dynamic, strong, emotional, relevant, tasteful, good), with pornographic characterised as more superficial (e.g., transparent, repetitive, physical) and obscene being the most unusual and disturbing. Participants gave more variable responses in their erotic ratings of images compared with pornographic and obscene. Significant sex-of-viewer differences were observed. Females found most content erotic except explicit images of two males that were rated most obscene; males rated images containing only males of little erotic interest. In future research, more consideration needs to be given to image content before it can be deemed pornographic and its likely effects on the viewer assumed.

"No nude, however abstract, should fail to arouse in the spectator some vestige of erotic feeling . . . and if it does not do so, it is bad art and false morals." So admonished Sir Kenneth Clark (1958, p. 6) in his seminal text discussing the importance of the nude in the history of art. While he was concentrating on the classic arts, it is likely that photographic nudes also would generate such feelings. However, images of the unclothed human form are capable of evoking other reactions beside "erotic"; they often attract the labels "pornographic" or "obscene." How are such categories differentiated in the mind of the viewer? In making his assertion, Clark alluded to the two fundamental factors that underpin the "spectator's" reaction to an image: attributes of the viewer, and characteristics of the work itself. Which aspects of each might influence the response to the nude?

Numerous writers from many different perspectives have attempted to define the terms erotic, pornographic, and obscene but the resultant descriptions can be complex, obscure, and confusing. Most literature has focused on pornography as the concept of greatest cultural significance (Slade, 2001, produced a comprehensive annotated bibliography of relevant literature), with the occasional attempt to distinguish it from erotic and obscene (for some classic examples see Lawrence, 1929; Sontag, 1979; Steinem, 1980).

McNair (1996) summarized what seems a general distinction between erotica (positive) and pornography (negative) in his claim that the latter "was a dirty, degrading, humiliating representation of sex, a deviation; while erotica was valid, healthy and natural" (p. 52). However, this view is not based on any operational definition and is value laden, as are many of the politically influenced descriptions (e.g., Dworkin, 1981).

Even workers who have taken great care with their definition construction have failed to differentiate the constructs. McElroy (1995), while alluding to a difference between erotica and pornography, appeared to confound the two concepts by describing pornography as the explicit artistic depiction of men and/or women as sexual beings. In her view, both the intention of the producer of the material and the reaction of the consumer had to be excluded as irrelevant to the meaning of the term. Diametrically opposed to this definition is that advocated by Rea (2001) comprising two parts "one stating what it is for something to be *used or treated* as pornography, and the other stating what it is for something to be pornography" (p. 134). While Rea's complex description considers several conditions as contributing to our understanding of pornography as a concept, it also still fails to identify what would characterize the erotic as a stimulus.

The literature appears clearer in distinguishing between pornography and obscenity, possibly because the latter has been interrogated extensively in the legal context. Landmark cases such as *Miller v. California* (Hunter, Saunders, & Williamson, 1993) set standard tests by which obscenity could be determined. They include: (a) whether the average person, applying contemporary community standards, would find that the work, taken as a whole, appeals to the prurient

interest, (b) whether the work depicts or describes, in a patently offensive way, sexual conduct specifically defined by the applicable state law, and (c) whether the work, taken as a whole, lacks serious literary, artistic, political or scientific value (p. 213).

It appears that, in the literature, there is an obvious hierarchy in clarity of definition from the prescribed obscene, through the well-considered pornographic, to the vaguely described erotic. Would a similar pattern of variability be reflected in the meaning respondents might attribute to these terms? Would the content of photographs categorised as erotic show more variety than those described as pornographic or obscene?

When describing works of art, two general attributes usually are discussed: content and form. These potentially are extremely variable and complex when dealing with the nude (here I will concentrate on photographs); indeed, the comprehensive survey produced by LaSala (2005) attests to this. Interacting with the qualities of the work are the characteristics the viewer brings to the cognitive and aesthetic experience of responding to a photograph.

While there has been some discussion of the connection between "erotics" and "aesthetics" in the psychoanalytic and philosophic literature (e.g., Stoller, 1985, emphasized their eclectic nature and argued that excitement can be a common experience of both), there have been few empirical attempts to investigate what characteristics of a work or of its viewers might determine or influence their response to a photographic image of the nude.

Through a series of interviews, Eck (2001, 2003) detected differences in the way respondents utilized cultural scripts in interpreting photographs of the nude. She argued that people make sense of nude images by assigning them to culturally agreed, bounded frames, including art, pornography, and information, (and possibly newer frames including advertising images) employing cues from the work and their knowledge, experience, attitudes, and beliefs to make the judgment. In using responses from 45 people to support this claim, she noted that definitions of pornography (soft-core) were much clearer than definitions of art. Unfortunately, erotic was not considered as a separate frame, so no attempt was made to determine which of the "art" or "pornography" images might fall in this category. It would be interesting to identify elements of both the work and the viewer that could contribute to scripts enabling the differentiation of erotic, pornographic, and obscene.

Eck (2003) observed clear sex differences in how men and women perceived images of the same and opposite sex. Her findings indicate that Berger's (1972) classic observation that "Men look at women. Women watch themselves being looked at." (p. 47) still applies. Both sexes felt comfortable and commented freely when discussing female nudes, but male nudes elicited variable responses suggesting that the scripts available were inadequate. Some females enjoyed the exposure, others liked the images but experienced guilt, while a few rejected the experience of viewing a naked male. Men either overtly rejected

the male nude or expressed disinterest, often apparently as a result of homophobic feelings.

The present research firstly explored the criteria people use to differentiate the concepts erotic, pornographic, and obscene. Then it investigated the role that (a) certain attributes of the image, including the number and sex of subjects photographed, image explicitness, and image chroma (whether monochrome or colored), and (b) viewer characteristics, particularly an individual's aesthetic sensibility as well as his/her sexual orientation and interest, might play in influencing perceptions of photographs of the nude.

METHOD

Participants

Data were collected from 37 female and 22 male respondents (age: $M_{Female} = 24.29$, $SD = 6.34$; $M_{Male} = 28.95$, $SD = 10.27$), including second and third-year undergraduate and some postgraduate visual arts students from the Queensland College of Art at Griffith University. All were volunteers who responded positively to a request for subjects.

Materials and Procedure

Data collection was achieved by presenting all measures and tests using a self-paced interactive computer program written by the author in *HTML* code and accessed through Web browsers (e.g., *Internet Explorer*). Participants were assigned a computer in the testing laboratory, given the rationale for the study, instructed on how to operate the program, record their responses to questions presented on screen by entering data in text boxes or by choosing the appropriate buttons provided on the respective forms, and submit their data for analysis (again using the designated buttons). On the first form they provided their demographic details (sex, age, educational level, extent of art training); they then responded sequentially to the respective tests provided.

Several measures both of aesthetic awareness and sexual interest were taken of each participant. Initially all completed the Aesthetic Judgement Ability Test (AJA) developed by Bamossy, Johnston, and Parsons (1985). In this test, participants were shown three art works (Paul Klee's *Senecio*, 1902; Ivan Albright's *Into the World There Came a Soul Called Ida*, 1930; and Francisco Goya's *Disasters of War Plate 03*, 1863) and given a series of statements about the works with which they had to indicate their level of agreement on a 4-point scale (Strongly Agree to Strongly Disagree).

In addition, the Visual Aesthetic Sensitivity Test or VAST (Eysenck, 1983) was used as another means of measuring aesthetic response. The form employed here included 48 items, each one depicting a pair of designs, an original and a

modification that, in the view of a set of experts, represented a less satisfactory form. Participants were shown three exemplars to illustrate the evaluation criteria and then asked to indicate which of each pair they thought was the better design.

As an indicator of their attitudes to sexual themes, participants completed Fisher, Byrne, White, and Kelly's (1988) Sexual Opinion Scale (SOS) that presented 21 positive and negative statements (e.g., "9. Seeing an erotic (sexually explicit) movie would be sexually arousing to me.") with which participants' level of agreement was sought on 7-point scales. Fisher et al. claimed that the SOS score revealed a respondent's degree of Erotophilia/Erotophobia. As well, a Sexual Orientation Measure (SOM) was developed from principles discussed by Sell (1997). This included four 5-point scales recording the self-reported degree of behavioural and psychological interest (not-at-all to extreme) in heterosexuality and homosexuality. Since the behaviour scales received a weighting of two, each sexual dimension was scored out of a maximum of 15 for each person.

Participants then were required to complete a 26-item Semantic Differential (Osgood, Suci, & Tannenbaum, 1957) applied to each of three concepts: Erotic, Pornographic, and Obscene. Pole descriptors used for the 7-point scales are included in Figure 1. Each scale point corresponded to a radio button that respondents used to make their selection. Finally, participants were required to rate 150 diverse photographic images of the nude selected from published sources (including art books, exhibitions and magazines) on 7-point Likert-type scales indicating how erotic, pornographic, and obscene they found the images, as well as how much they liked the photographs, and how pleasing they found them based on their personal criteria. Images were presented for rating in a random order to avoid sequencing bias. Each photograph had been prepared to appear in a frame beside the five rating scales so that its longest side would be 150 mm on the screen of a Macintosh computer at 1024×768 ppi resolution, which presented a high-quality image at a viewing distance of 500 mm. Scripts in the program aggregated the data, scored the responses, and sent the compiled scores to the author by e-mail for subsequent analysis. The collection procedure took between one and one and a half hours to complete.

RESULTS

Concept Analysis

Before investigating respondents' ratings of images in terms of how erotic, pornographic, or obscene they perceived the photographs to be, it was important to try to understand how the observers differentiated these concepts in their own minds. Analysis of the Semantic Differential scales was useful here; this involved conducting a $2 \times 26 \times 3$ (Sex \times Scale \times Concept) mixed ANOVA with repeated measures on the latter two factors (applying the Greenhouse-Geisser correction).

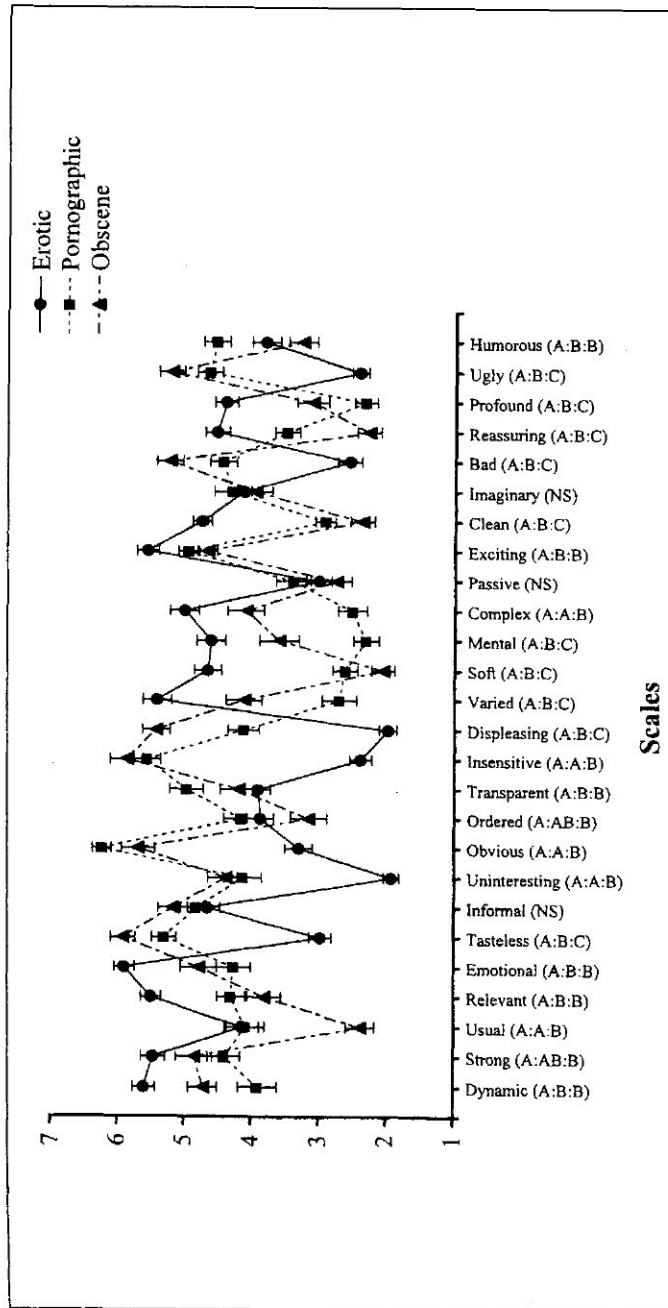


Figure 1. Means and standard errors of semantic differential scale scores for concepts: Erotic, Pornographic, and Obscene. Labels represent the poles at the high end of the scales. Left parentheses following labels relate to the three means in each set from highest to lowest. Means sharing a letter were not found to be significantly different from each other ($p > .05$) using the Tukey's HSD test.

No Sex effect was detected but a main effect for Scale, $F(11, 550) = 22.79, p < .01$, and a significant Scale \times Concept interaction, $F(14, 694) = 31.61, p < .01$, were recorded. This relationship is illustrated in Figure 1.

Post hoc pairwise comparisons using Tukey's HSD test (Howell, 2002) revealed that Erotic was defined by significantly higher scores ($p < .05$) on the Dynamic, Relevant, Emotional, Tasteful, Interesting, Subtle (less Obvious), Sensitive, Pleasing, Varied, Soft, Mental, Exciting, Clean, Good, Reassuring, Profound, and Beautiful (less Ugly) scales than either Pornographic or Obscene. Pornographic was differentiated significantly from the other two concepts by being perceived as more Transparent, Repetitive, Physical, Simple, Superficial, and Humorous. Obscene was unique in being characterized as significantly more Unusual, Tasteless, Displeasing, Hard, Dirty, Bad, Disturbing (less Reassuring), and Ugly.

Image Ratings

Erotic

From the mean erotic ratings given to each of the 150 images, the 10 receiving the highest scores from females and males were identified; five images were common to the "Top 10" of both sexes, while five images were unique to each set (making a total of 15 images). The 15 mean erotic ratings for females and males are shown in Figure 2a (the code MF in the number indicates common images). A 2×15 (Sex \times Image) mixed ANOVA with repeated measures on the latter factor (and using the Greenhouse-Geisser correction) found no main effect for Sex but did show a main effect for Image, $F(9, 493) = 2.35, p < .05$, and a significant interaction, $F(9, 493) = 7.76, p < .05$. Males gave significantly higher ratings than females on four images, three showing females photographed from the rear (008, 035, and 101) and the fourth (047) depicting a female in bondage, while females scored significantly higher on two images that both included two males (069 and 121).

Pornographic and Obscene

A comparable "Top 10" analysis was performed on the Pornographic and Obscene ratings given to the 150 images. In each set, females and males agreed on seven of the images with three being unique. Figures 2b and 2c depict ratings given to the respective photographs, with the code MF indicating the common images. Again, the expected result highlighting Image differences was found when 2×13 (Sex \times Image) mixed ANOVAs with repeated measures on the latter factor (and applying the Greenhouse-Geisser correction) were performed on the data: for Pornographic, $F(7, 355) = 7.71, p < .05$; for Obscene, $F(8, 447) = 7.95, p < .05$. However, neither Sex differences nor interaction effects were observed

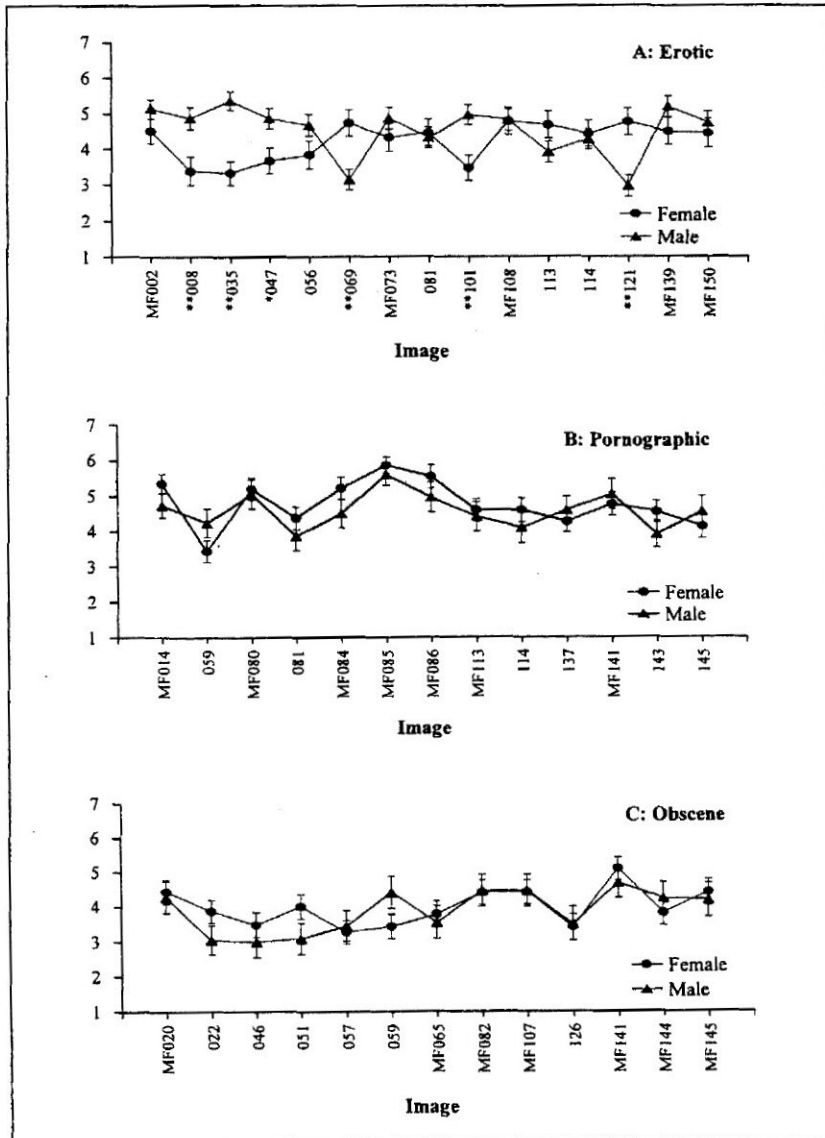


Figure 2. Mean ratings and associated standard errors for each of the 10 most Erotic, Pornographic, and Obscene images as determined by female and male viewers. The code MF identifies the images that were included in the "Top 10" by both females and males. Asterisks indicate those means that were significantly different (* $p < .05$; ** $p < .01$).

with either concept. Females and males show less variability when articulating these concepts than they do with Erotic.

Interestingly, only two images were included in both the highly rated Erotic and Pornographic lists, one (113) showing a color image of a heterosexual couple embracing in a shower and the other (114) a monochrome depiction of heterosexual cunnilingus. Three images appeared in both the Pornographic and Obscene lists, two (59 and 141) presenting different representations of anal fisting (photographs by Joel-Peter Witkin and Robert Mapplethorpe) and Andreas Serrano's image of heterosexual urolagnia (145) with the female active. None of the Obscene images was seen as Erotic.

Factors Influencing How Pleasing Images Appear

As well as scoring the 150 images on how Erotic, Pornographic, and Obscene they were perceived, respondents also were asked to indicate how much they Liked each image and how Pleasing they found each to be. As a way of determining the importance of factors in influencing Pleasingness, hierarchical multiple regressions were performed for females and males separately. Pleasingness was set as the dependent variable with Liking entered first as a control, and the Erotic, Pornographic, and Obscene scores used as independent variables. The results of these analyses are shown in Table 1.

For females, the extent to which they Liked an image, and the less Obscene and the more Erotic it appeared, the more Pleasing they reported it to be. The Pornographic score did not contribute significantly to their Pleasing rating. With males, low Obscene, high Liking, and high Erotic scores all were important predictors of the Pleasingness of an image; in addition, how Pornographic the image was perceived to be also impacted significantly on the Pleasing response (see Table 1).

Viewer Attributes

To investigate the importance of respondent characteristics in the rating of erotic, pornographic, and obscene content, Pearson product-moment correlations were calculated between age, educational level, aesthetic measures (VAST and AJA), indicators of sexual interest and orientation (SOS and the heterosexual and homosexual scores from the SOM), and computed erotic, pornographic, and obscene scores obtained by summing the ratings given by individuals to the 15 "most erotic," 13 "most pornographic," and 13 "most obscene" images listed in the respective components of Figure 2. Since exploratory analyses revealed sex differences for only the homosexual score in this variable set [$M_{Female} = 6.83$; $M_{Male} = 4.45$; $F(1, 56) = 7.11$, $p < .05$], correlations were obtained from pooled female and male data (see Table 2).

While the significant negative relationship between Heterosexual and Homosexual scores ($r = -.40$, $n = 58$, $p < .01$) and the positive correlation recorded

Table 1. Hierarchical Regression Analyses for Variables Predicting Female and Male Perceptions of Image Pleasingness ($N = 150$)

	<i>B</i>	<i>SE B</i>	Beta
Variables (Female)			
Step 1			
Liking	.91	.08	.71**
Step 2			
Liking	.59	.05	.53**
Erotic	.27	.05	.26**
Pornographic	.06	.05	.09
Obscene	-.43	.06	-.52**
Variables (Male)			
Step 1			
Liking	.92	.10	.61**
Step 2			
Liking	.64	.06	.42**
Erotic	.40	.05	.38**
Pornographic	.19	.07	.18**
Obscene	-.70	.09	-.57**

Note: $R^2 = .50$ for Step 1; $\Delta R^2 = .37$ for Step 2 ($p < .01$). ** $p < .01$

Note: $R^2 = .36$ for Step 1; $\Delta R^2 = .48$ for Step 2 ($p < .01$). ** $p < .01$

between Education and Age were to be expected ($r = .54, n = 56, p < .01$), the negative association between Education and the VAST scores was surprising ($r = -.31, n = 46, p < .05$). This may have some relationship with the negative correlation between the VAST and Homosexual scores ($r = -.40, n = 45, p < .01$). Possibly older respondents and those with a stronger homosexual interest, for different reasons, were more individualistic and hence less likely to adhere to the prescribed instructions defining "good design" underpinning the VAST.

An intriguing observation involved the positive connection between the AJA and SOS results ($r = .35, n = 48, p < .05$). This finding was consistent with the fact that high scorers on both the AJA and SOS gave the sampled images low Obscene ratings (AJA: $r = -.47, n = 57, p < .01$; SOS: $r = -.46, n = 50, p < .01$). Such an observation suggests that respondents who were more creative and liberal thinkers were less affected by the more obscene depictions, perhaps because they were more likely to have encountered such imagery in the past.

The computed Erotic score correlated positively with the SOS ($r = .31, n = 50, p < .05$) with erotophilics giving higher erotic scores, while a significant negative

Table 2. Pearson Product-Moment Correlations between Demographic Variables, Aesthetic Response, Sexual Interest, and Computed Erotic, Pornographic, and Obscene Scores

Measures	1	2	3	4	5	6	7	8	9	10
1. Age	—	.54** (56)	-.22 (54)	-.29 (43)	.09 (47)	.21 (55)	-.25 (55)	-.27* (56)	-.45** (56)	-.01 (56)
2. Education		—	-.13 (57)	-.31* (46)	-.14 (50)	.10 (58)	-.05 (58)	-.24 (59)	-.18 (59)	-.09 (59)
3. AJA			—	-.10 (45)	.35* (48)	-.05 (56)	.23 (56)	.07 (57)	-.02 (57)	-.47** (57)
4. VAST				—	-.13 (45)	.12 (45)	-.40** (45)	.22 (46)	.19 (46)	.11 (46)
5. SOS					—	-.18 (49)	.32* (49)	.31* (50)	-.26 (50)	-.46** (50)
6. Hetero						—	-.40** (58)	.11 (58)	.03 (58)	.06 (58)
7. Homo							—	.07 (58)	.02 (58)	-.13 (58)
8. Erotic								—	.50** (59)	.12 (59)
9. Pornographic									—	.56** (59)
10. Obscene										—

Note: Numbers in parentheses indicate the n for each comparison.

* $p < .05$. ** $p < .01$.

association ($r = -.27$, $n = 56$, $p < .05$) was found with age (younger viewers rating the images higher in erotic impact). However, while both these correlations were relatively low, Erotic showed a strong association with Pornographic ($r = .50$, $n = 58$, $p < .01$).

Other significant findings included: (a) the tendency for those with higher homosexual involvement to be more erotophilic ($r = .32$, $n = 49$, $p < .05$) possibly reflecting that their sub-group is defined on the basis of sexuality; (b) the negative connection between Pornographic and Age ($r = -.45$, $n = 56$, $p < .01$) with younger respondents giving higher Pornographic scores; and (c) the strong positive association between Pornographic and Obscene scores ($r = .56$, $n = 59$, $p < .01$).

Two non-significant findings are worthy of noting. No relationship was observed between Erotic and Obscene, indicating little common variance ($r = .12$, $n = 59$, $p > .05$); these concepts are perceived as quite different entities in the minds of respondents. Of further interest is the lack of any association between the VAST and AJA results ($r = -.10$, $n = 45$, $p > .05$) which raises questions concerning the validity of these measures of aesthetic response.

Image Characteristics

Each of the 150 images was classified according to its Content (Single Female, Single Male, Two Females, Two Males, Female and Male subjects); Chroma (Monochrome or Color); and Explicitness. Images were grouped in the "Low Explicit" category if the nude figure(s) did not reveal the pubic region and interactive behavior was limited to no more than an embrace. "Medium Explicit" involved display of the pubic region (pubic hair and/or penis visible) and contact could occur with the unaroused genitals. The "High Explicit" group included images where the genitals were overtly displayed (labia visible, erect penises) and behaviors were directly sexual (fellatio, cunnilingus). Some images showing extreme behaviors (urolagnia, fisting) also were included.

Overall mean Erotic, Pornographic, and Obscene ratings were calculated, averaged over the scores for all images in each category of content at each level of explicitness. A $2 \times 5 \times 3$ (Sex \times Content \times Explicitness) MANOVA with repeated measures on the last two factors conducted on the combined dependent variables revealed no main effect for sex of respondent [Wilks' Lambda = .99, $F(3, 55) = .01$, $p > .05$] but did obtain main effects for Content [Wilks' Lambda = .22, $F(12, 598) = 38.34$, $p < .01$, partial eta squared = .40] and Explicitness [Wilks' Lambda = .15, $F(6, 224) = 58.83$, $p < .01$, partial eta squared = .61]. Qualifying these were two-way interactions Content \times Sex [Wilks' Lambda = .71, $F(12, 598) = 6.76$, $p < .01$, partial eta squared = .11] and Content \times Explicitness [Wilks' Lambda = .37, $F(24, 1317) = 22.46$, $p < .01$, partial eta squared = .28] and a significant three-way interaction [Wilks' Lambda = .92, $F(24, 1317) = 1.68$, $p < .05$, partial eta squared = .03]. Univariate tests were used to explore the significant differences for each dependent variable.

Content and Explicitness: Erotic

Analyses of the Erotic ratings (applying the Greenhouse-Geisser correction) showed a main effect for Content [$F(2, 166) = 40.23$, $p < .01$, partial eta squared = .41] and a Sex \times Content interaction [$F(2, 166) = 18.54$, $p < .01$, partial eta squared = .26]. No main effect for Explicitness was found [$F(1, 69) = 3.10$, $p > .05$], but a Content \times Explicitness interaction was significant [$F(4, 236) = 4.77$, $p < .01$, partial eta squared = .08]. However, Erotic was the only dependent variable for which a significant three-way interaction was found [$F(4, 236) = 2.93$, $p < .05$, partial eta squared = .05]. Figure 3 shows female and male viewers' responses to the varying image content under the three explicitness conditions. Pairwise comparisons using the Tukey HSD test (with $\alpha = .05$) revealed that, under the Low Explicit condition, male viewers gave significantly lower erotic ratings than females to images depicting two males; for Medium Explicit, males scored significantly higher than their female counterparts when images contained only female subjects, and significantly lower when images depicted only males. When viewing High Explicit images, male and females were similar in their Erotic ratings, except that males gave significantly higher scores to images showing single females.

Content and Explicitness:

Pornographic and Obscene Ratings

Corresponding univariate analyses (derived from the Sex \times Content \times Explicitness MANOVA) were performed on the mean Pornographic and Obscene ratings. Main effects were found for Content [Pornographic: $F(2, 152) = 82.64$, $p < .01$, partial eta squared = .59; Obscene: $F(3, 182) = 11.39$, $p < .01$, partial eta squared = .17] and Explicitness [Pornographic: $F(1, 87) = 261.78$, $p < .01$, partial eta squared = .82; Obscene: $F(1, 76) = 93.43$, $p < .01$, partial eta squared = .62]. These were qualified by significant Sex \times Content [Pornographic: $F(2, 152) = 4.42$, $p < .01$, partial eta squared = .07; Obscene: $F(3, 182) = 3.24$, $p < .05$, partial eta squared = .05] and Content \times Explicitness [Pornographic: $F(4, 270) = 55.31$, $p < .01$, partial eta squared = .49; Obscene: $F(5, 285) = 27.92$, $p < .01$, partial eta squared = .33] interactions. Figures 4a and 4b display the Sex \times Content interactions while Figures 5a and 5b present the Content \times Explicitness findings.

When exploring the Sex \times Content interaction, for the Pornographic ratings, pairwise comparisons using the Tukey HSD test indicated (for $\alpha = .05$) that both females and males saw the images with only one male or female model as the least pornographic and gave significantly higher ratings to all other representations, with pictures of two males being rated as the next most pornographic. While male viewers did not differentiate these from images of two females, female viewers reported that they found photographs of two females significantly more pornographic than those of two males and not significantly different from

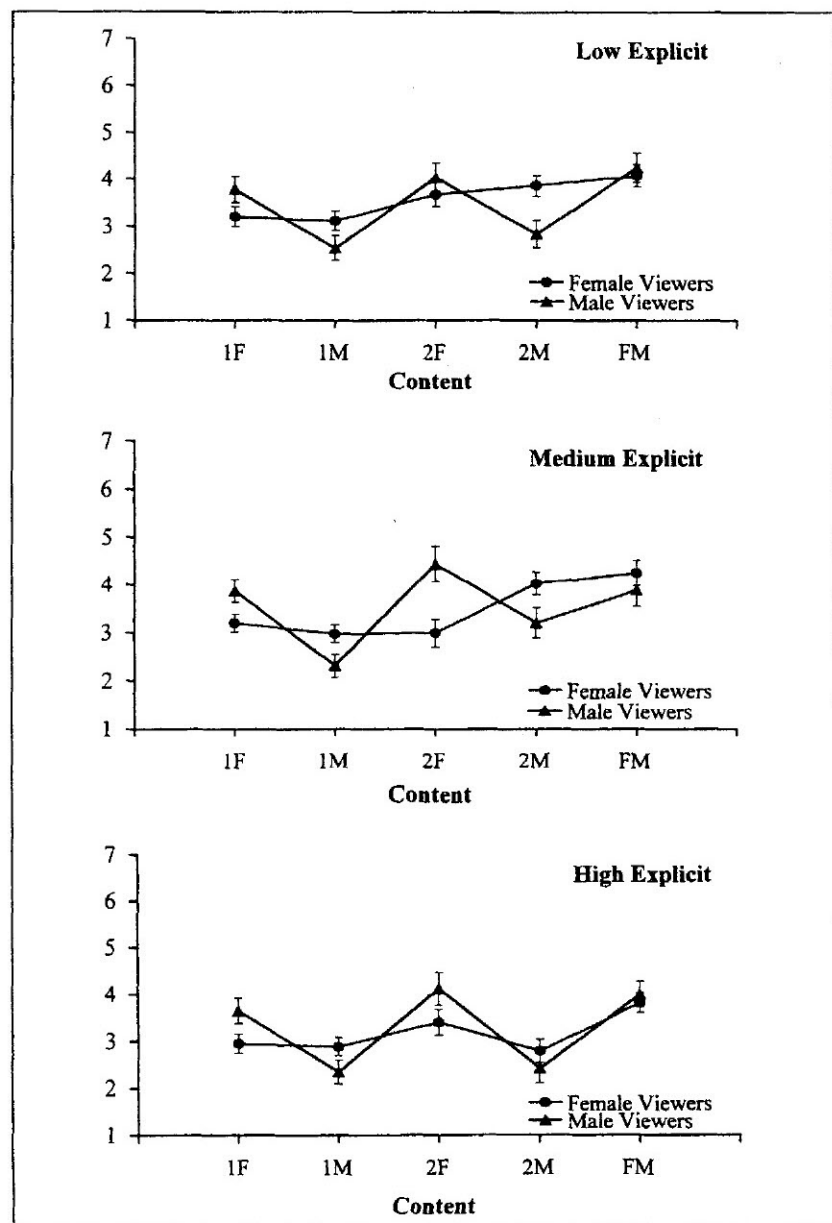


Figure 3. Mean Erotic ratings and associated standard errors by female and male viewers for varying image content as a function of image explicitness.

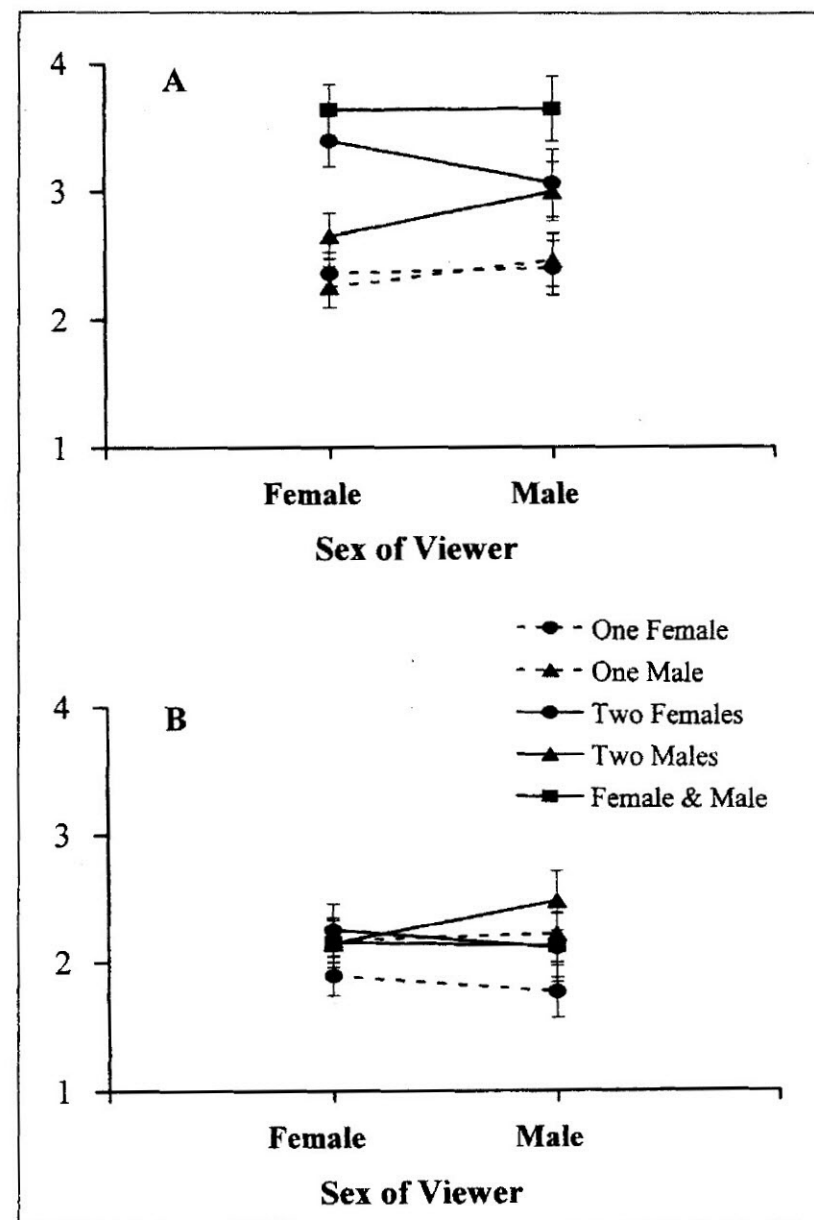


Figure 4. Mean Pornographic and Obscene ratings and associated standard errors by female and male viewers in response to varying image content.

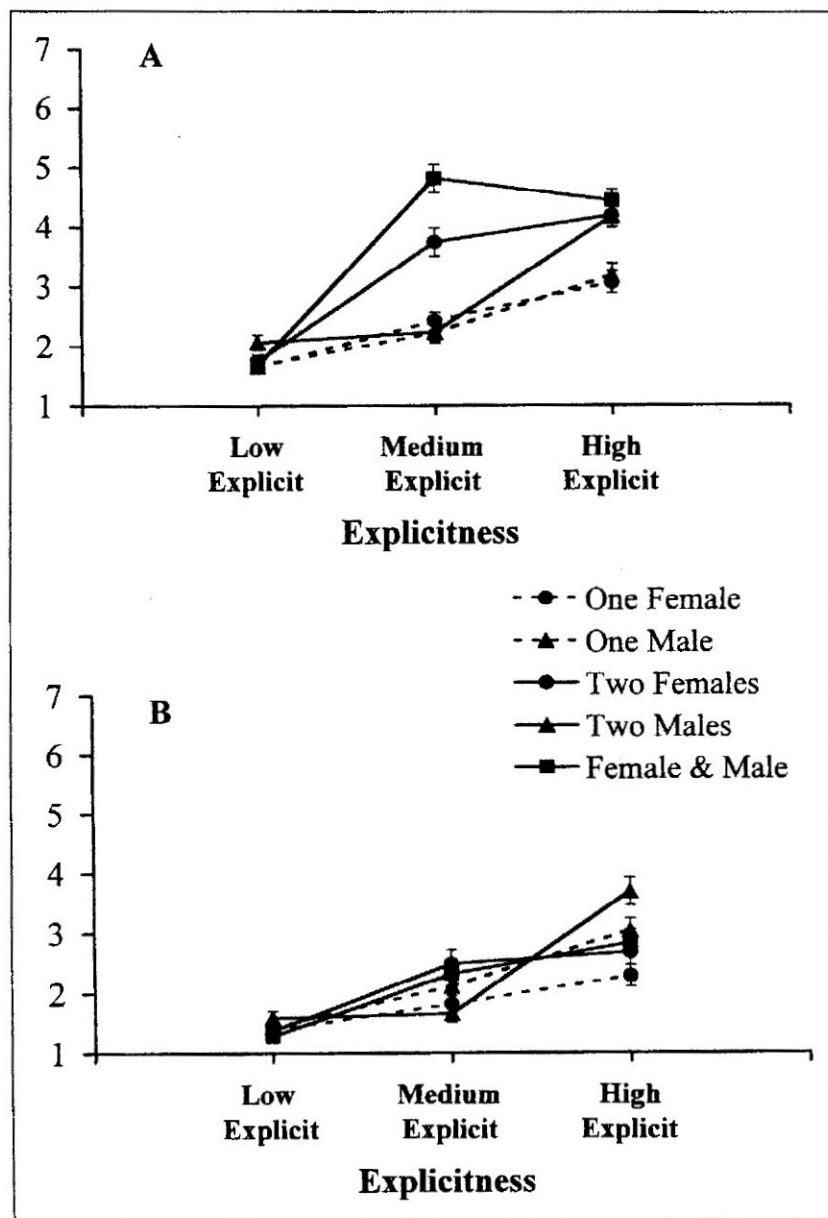


Figure 5. Mean Pornographic and Obscene ratings and associated standard errors for images of varying explicitness in relation to image content.

photographs depicting female and male models that males found to be the most pornographic of all.

For the Obscene ratings, it can be seen from Figure 4b that respondents overall gave relatively low mean scores. Both sexes found images of one female to be significantly less obscene than other representations. Female viewers did not differentiate among the other content categories, however males gave images involving two males significantly higher Obscene scores.

Post hoc analyses (using the Tukey HSD test) of the Content \times Explicitness interaction revealed that, for Low Explicit representations, even though the images of two males were scored significantly higher than other categories, all Pornographic ratings were quite low (Figure 5a). With the Medium Explicit images, photographs of heterosexual couples were rated most Pornographic, significantly higher than images of two females that in turn were significantly differentiated from single-female representations, with images of males significantly lower than these. In the High Explicit condition, images depicting two people were perceived as significantly more Pornographic than were single-model photographs. Of particular interest is the varying response to images of two males in the Medium and High Explicit conditions. The low scores in the former could reflect the observation that non-aroused males are not considered as sexual, whereas, as Berger (1972) posits in his classic text, Western society has conditioned viewers to see naked females as sexual objects, "a sight" (p. 47).

When considering the Content \times Explicitness interaction for Obscene ratings, the Low Explicit treatment again produced extremely low scores, while in the Medium Explicit condition single-female and two-male images were significantly differentiated from the other higher scoring content categories. With the High Explicit images, photographs of one female were rated significantly less, and images of two males significantly more Obscene than other content.

Chroma

Further analyses explored the effect of Chroma (monochrome compared with colored photographs) on the Erotic, Pornographic, and Obscene responses. A $2 \times 5 \times 2$ (Sex \times Content \times Chroma) MANOVA, with repeated measures on the last two variables verified the already reported main effect for Content and a Sex \times Content interaction when considering Erotic scores (incorporated in the three-way interaction described in Figure 3). In addition a main effect for Chroma was obtained [Wilks' Lambda = .24, $F(3, 55) = 57.65$, $p < .01$, partial eta squared = .76] and a Content \times Chroma interaction [Wilks' Lambda = .29, $F(12, 598) = 30.27$, $p < .01$, partial eta squared = .34]. Univariate analyses, applying the Greenhouse-Geisser correction, found a Chroma main effect for the Erotic [$F(1, 57) = 6.00$, $p < .05$, partial eta squared = .10], Pornographic [$F(1, 57) = 178.98$, $p < .01$, partial eta squared = .76], and Obscene [$F(1, 57) = 31.18$, $p < .01$, partial eta squared = .35] ratings. Monochrome images were seen as

more Erotic ($M = 3.50$, $SE = .15$) than were nudes in color ($M = 3.28$, $SE = .13$), but images in color were rated as more Pornographic ($M = 3.19$, $SE = .15$) and Obscene ($M = 2.22$, $SE = .16$) than were their monochrome counterparts (Pornographic: $M = 2.35$, $SE = .12$; Obscene: $M = 1.88$, $SE = .11$). Significant Content \times Chroma interactions that qualified the main effects were recorded for the Pornographic [$F(3, 192) = 112.46$, $p < .01$, partial eta squared = .66] and Obscene [$F(2, 153) = 41.83$, $p < .01$, partial eta squared = .42] responses; these results are shown in Figure 6.

While color images were seen as more Pornographic than Monochrome in all content categories except photographs of single males (see Figure 6a), for Obscene ratings the scores were more variable. Images in color were found to be significantly more Obscene with female models and heterosexual couples than their monochrome equivalents, but for the single-male images, the monochrome images presented here were rated as significantly more Obscene; no difference was noted for images including two males (Figure 6b). These variations from the general trend could be more a function of the specific images used here than the particular content. Future studies would benefit from incorporating more systematically other aspects of the image content as variables to be investigated.

DISCUSSION

Concept Analysis

The results of these analyses indicate that, although the terms erotic and pornographic often are used interchangeably, people differentiate between these concepts on a variety of criteria. In general, Erotic is seen in a positive light (e.g., Good, Tasteful, Reassuring), the current data supporting an interpretation of this concept as more powerful (e.g., Dynamic, Strong, Emotional, Relevant), intellectual (e.g., Interesting, Subtle, Varied, Mental), and aesthetic (e.g., Pleasing, Profound, Beautiful). This clearly is different from Pornographic that is viewed as highly Physical, Repetitive, Obvious, Insensitive, Dirty, and lacking Complexity, though possibly exhibiting Humorous attributes. No positive impressions were associated with Obscene, its being perceived as Tasteless, Displeasing, and Disturbing. These data suggest that McElroy's (1995) description of an "artistic depiction" might be better used when relating to erotica, and new "differentia" should be added to emphasize the superficiality of pornography. Although respondents confirmed the essence of the legal description of obscene, they constructed an even more extreme view by emphasising the disturbing nature of this content.

Image Ratings

In applying their personal constructs of erotic, pornographic, and obscene to the perception of images, participants here revealed a strong association between

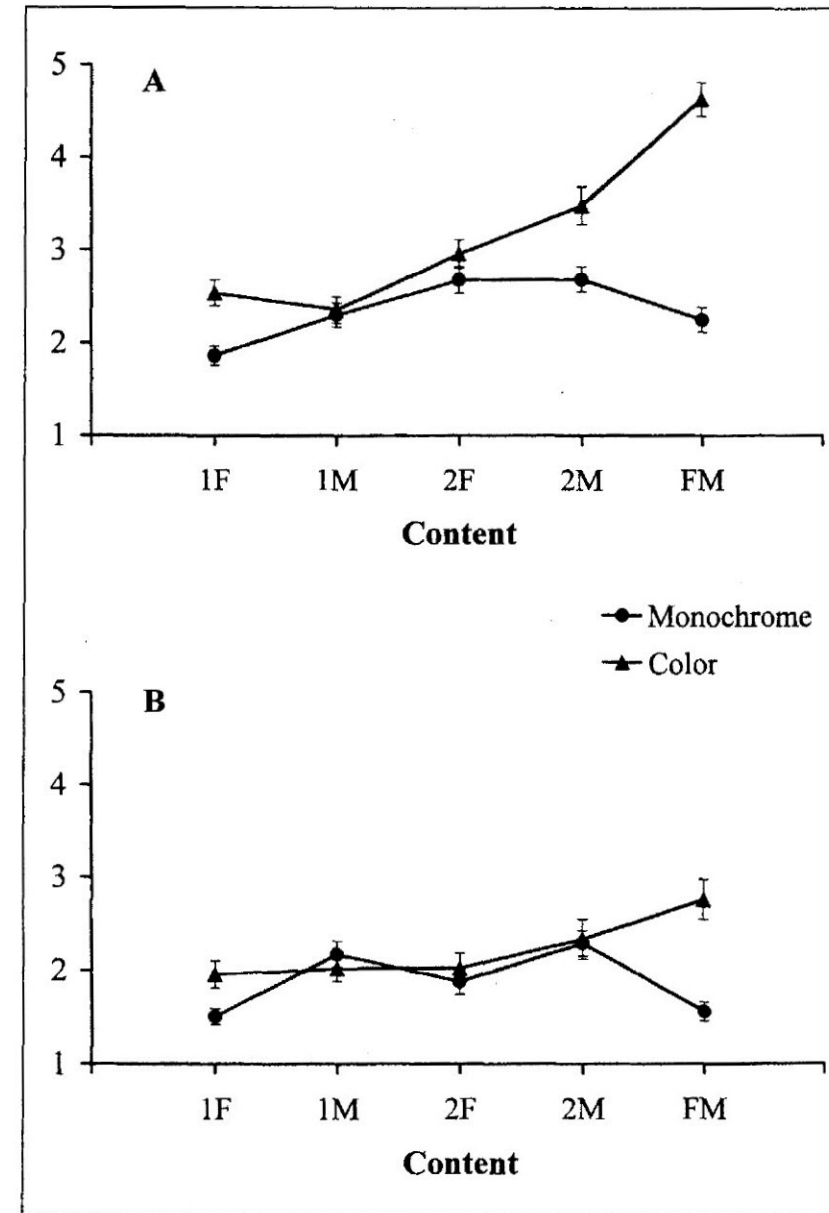


Figure 6. Mean Pornographic and Obscene ratings and associated standard errors for monochrome and color images of varying content.

erotic and pornographic, between pornographic and obscene, but no relationship at all between erotic and obscene. Clearly, in image ratings, pornographic shares certain attributes with erotic and different characteristics with obscene. One area that requires further investigation is to explain why the concept analysis reported here did not reveal a strong association between erotic and pornographic on the scales used in this semantic differential (apart from how Usual each appeared). Rather than impose set constructs, it could be insightful to use a methodology such as the Repertory Grid (Fransella, Bell, & Bannister, 2004) to establish what might be more relevant scales for differentiating the image elements identified in this study as erotic, pornographic, or obscene.

As indicated in Figure 2, ratings of images in terms of how pornographic or obscene they were perceived by female and male viewers were less variable than were comparable erotic ratings. Such findings are consistent with the observations by Eck (2001) concerning pornography and art. The erotic is a complex concept (as is art) and as such it would be expected to evoke more idiosyncratic interpretations than either pornographic or obscene. As well as responding similarly to females in reporting that the most pleasing images were those they liked and found to be erotic and not obscene, males differed by finding those images with a higher pornographic content also more pleasing. This may reflect the tendency for males to be more familiar with pornography and use it more frequently in their own sexual behavior (see Hald, 2006), and is consistent with Bradley, Codispoti, Sabatinelli, and Lang's (2001) observation that men overall reported more pleasure and exhibited greater sympathetic arousal in response to images containing sexual cues than did women. Recent evidence links such sex differences in response to visual stimuli containing sexual content to neurophysiological phenomena, including greater levels of activation in the amygdala of males (Hamann, Herman, Nolan, & Wallen, 2004).

Viewer Attributes

These results indicate that individuals' sexual interests are more relevant in predicting their erotic ratings than are their aesthetic sensibilities. Younger people gave higher erotic and pornographic ratings, perhaps being more flexible in their response than older participants, as Eck (2001) has found. The lack of association between the two aesthetic instruments used suggests they are measuring different aspects of this phenomenon. The AJA rewards divergent thinking (as does the SOS) while the VAST is more prescribed and convergent. Perhaps this may partially explain its negative correlation with the respondents' level of homosexuality, with high scorers on this attribute having demonstrated a tendency to move outside imposed boundaries. These high scorers on the AJA and SOS (possibly broader, more liberal thinkers) also appeared less affected by the obscenity of an image. It would be interesting to explore the association between

divergent creativity as a concept (Seddon, 1983) and these aesthetic and erotophilic/erotophobic measures.

Image Characteristics

Sex differences in erotic ratings obtained here generally support Eck's (2003) findings with female participants showing increasing scores over content categories for all levels of explicitness except for high explicit images of two males that received low erotic and high obscene ratings. Males, by comparison, while appreciating images of females, showed little positive interest in photographs containing male models, giving them the lowest erotic and highest obscene ratings. These data are consistent with Mahaffey, Bryan, and Hutchison's (2005) reporting of a bias in many heterosexual men, but not heterosexual women, against homoerotic stimuli. Furthermore, they are consistent with Bradley et al.'s (2001) observation that women tended to rate same-sex erotica as more arousing and pleasing than did men. Interestingly, their measures revealed that the level of physiological responding was similar for both females and males, but the self-reported reactions were different.

The finding that monochrome photographs were seen as more erotic than colored images supports the general view (but one not well documented in the literature) that erotic stimuli are perceived as less obvious and more intellectual (and perhaps less representational) than, for example, pornography. More is left to the imagination. The giving of higher pornographic ratings to colored images by participants in this study is consistent with Mehta and Plaza's (1997) data showing that 81% of the pornographic images they analyzed from the Internet were in color.

Clearly these data indicate that the tendency for researchers to label sexually-related visual stimuli as "pornography" in defining an area of study fails to differentiate adequately the positively perceived domain of erotica. It would be a refreshing change if future research, rather than focusing on the more negative experiences associated with the pornographic and obscene, could continue to concentrate on developing a clearer understanding of the more uplifting construct "erotic," through a detailed exploration of variables including other generic respondent characteristics (e.g., conservatism, creativity, intelligence) and formal image qualities (e.g., lighting, camera angles, viewpoint, gaze) as well as a range of content that may contribute positively to a viewer's erotic experience with visual stimuli.

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Direct reprint requests to:

Dr. Joseph McDowall
 Department of Photography
 Queensland College of Art
 Griffith University (South Bank Campus)
 Brisbane 4101, Australia
 e-mail: j.mcdowall@griffith.edu.au