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# Working Paper

EFFECT OF SEXUAL ILLUSTRATIONS  
ON BRAND - PRODUCT RECALL:  
AN EXPERIMENTAL STUDY

by

Subhash C Mehta  
in collaboration with  
N P Bhagwat, Pravin Bhargava  
and Atul Vohra

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AHMEDABAD

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The main objective of the working paper series  
of the IIMA is to help faculty members  
to test out their research findings  
at the pre-publication stage.

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EFFECT OF SEXUAL ILLUSTRATIONS ON BRAND - PRODUCT RECALL:  
AN EXPERIMENTAL STUDY\*

Even a cursory perusal of print advertisements in the Indian marketing scene indicates that :

- a) Use of sex exposure of female models as illustrations in the ads is on the increase;
- b) Use of sex appeal is not confined to women related products but, in fact, is widely practiced for male products as well as for products purchased for household, industrial, and institutional use; and
- c) Use of sex appeal is not restricted to highly westernized segments of the market but is resorted to even for influencing traditional urban as well as rural segments of the market.

The present study was undertaken to experimentally test the validity of the above advertising practices.

Previous Research

The increasing use of sex appeal by the Indian marketers is perhaps based on similar trends observable in the western world. Though no study has yet been done in the Indian context, a few studies conducted in the U.S. indicate the following :

- a) Non-sexual illustrations are more effective than sexual ones in achieving brand recall (Alexander & Judd, 1978; Steadman, 1969; Baker, 1961).

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\* The data for this study were collected by M/s. Bhagwat, Bhargava and Vohra while working on a project in Behavioural Science Applications in Marketing course under the direction of Prof. Subhash C. Mehta. The data, however, were substantially re-analyzed by the senior author and present paper has been prepared by him on the basis of this re-analysis.

- b) Recall rates do not vary inversely with the degree of sexual exposure or nudity in the ads (Alexander & Judd, 1978; Steadman, 1969).
- c) Sexual illustrations have high attention getting value and attract the immediate interest of readers (Baker, 1961).
- d) Advertisements featuring pictures of women are more often read by women and vice versa (Rudolph, 1947).
- e) Irrelevant illustrations in ads attract a great deal of attention but do not associate the illustration with the product or brand. Because of the incongruity between the illustration and the type of product advertised, the resulting recall is lower (Anastasi, 1964).
- f) Respondents with attitudes favourable to the use of sex in advertising obtain greater recall of brand names accompanying sexual illustrations than respondents with attitudes unfavourable to such use (Steadman, 1969). This finding, however, has recently been contradicted and no such differences were found (Alexander & Judd, 1978).

### Hypotheses

Based on the above findings, the present research was aimed at empirically testing the following hypotheses :

1. The use of sexual illustrations will evoke lower recall than non-sexual illustrations.
2. The recall rate will inversely vary with the extent of sexual exposure depicted in the illustration.

Though this hypothesis had not found support in earlier studies, it was still considered appropriate to provide a test of it in the Indian context. If non-sexual illustrations generate better recall than sexual illustrations, intuitively it appears that within the sexual illustrations, greater sexual exposure should lead to lower recall than lesser exposure. This should be more true in India where norms of sexual exposure are still restrictive.

3. The use of sexual illustrations (female models) will generate greater recall on the part of female respondents than the male respondents.
4. Recall rate will be higher where use of sexual illustrations is congruent with the nature of the product than when it is incongruent.
5. Respondents with western values, because of their liberal orientation towards sex, will obtain higher recall from ads with sexual illustrations than those whose value system is not so western.

Since attitudes towards the use of sex in advertising cannot be conveniently used as a segmentation variable, a more practical measure of western orientation was used in this study.

#### Recall Measures

Almost all previous studies had confined themselves to a single measure of brand name recall. In this study, a broadened concept of recall was used. After exposure to the experimental ads, the respondents were asked to recall the brand, the product, the product-brand match and finally all the three components, namely, the recall of brand - product in association with the illustration. The research hypotheses, thus, have been tested in this study on a number of recall measures than a single variable of brand name recall.

#### Construction of Ads

The objectives of the research required careful preparation of experimental ads, representing both sexual and non-sexual illustrations. For the sexual illustrations, it was decided to include four levels of sex exposure from minimum to maximum. Thus five sets of ads had to be

prepared representing the non-sexual set and four sexual sets. In each set two comparable ads were included, one to be associated with a product where association with sexual illustration was considered congruent with the product and the other where product's association with sexual illustration was considered incongruent. Thus, in all ten ads were constructed and reproduced as 35 mm. black and white slides for projection to the subjects in the experiment. The details of these ads are given below :

<u>Advertisement</u>	<u>Product</u>	<u>Brand Name</u>	<u>Illustration</u>
<u>Non-sexual</u>			
Level 0 - Ad 1	Photofilm	Venture	A landscape
Level 0 - Ad 2	Refrigerator	Empire	"
<u>Sexual</u>			
Level I - Ad 1	Talcum Powder	Mellow	A fully dressed young female, homely looking, with no overt sexual suggestiveness.
Level II-Ad 2	Cheese	Chunky	"
Level II-Ad 1	All-purpose cream	Caress	A young female with shoulders and upper chest above the breasts exposed. Level of exposure was similar to the toiletry ads seen in the magazines. Mild sexual suggestiveness.
Level II-Ad 2	Bread	Smasher	"
Level III-Ad 1	Underwear	Clingon	A young female dressed in one-piece swim suit, low neck, with legs, thighs and upper front exposed. Considerable sexual suggestiveness.
Level III-Ad 2	Taperecorder	Divine	"
Level IV-Ad 1	Toothpaste	Bubbles	A young nude female with breasts totally exposed. Extreme sexual suggestiveness.
Level IV-Ad 2	Camera	Duchess	"

Exhibit 1 shows one of the sexual ads (level II Ad 1 - All-purpose cream "Caress") for illustration purposes. All ads had same size illustration, similar brand name lettering, a product illustration of the same type and size and similar appeal for buying the product at the bottom. Among sexual illustrations, ad 2 at each level represented an incongruent product.

To control for certain extraneous factors affecting the recall, the following precautions were taken in the construction of the ads:

1. Judges were used to classify the eight sexual ads into four sets of two each, from least sex exposure to maximum exposure. There was total unanimity in the classification.
2. All the eight models used in the sexual ads had Indian features and were of comparable attractiveness.
3. To control for any prior familiarity with the illustration, popular models or film stars were excluded in the construction of the ads.
4. All the product categories included in the study represented almost equal interest and familiarity of the subjects recruited for the experiment. Only products commonly used by the individuals or households of the type our sample was drawn from were included.
5. The choice of ten brand names included in the study was made on the basis of a separate survey in which thirty five different names were tested for their recall potential. The ten brand names finally selected received high but comparable recall. All names selected had 6 to 7 letters, were fairly easy to pronounce and none of the names was presently being used for any popular brand in the Indian market.
6. The illustration was placed in all the ads on the top half of the slide.
7. Differences in creativity were controlled through the use of a simplest possible and standard copy "Buy Venture Photofilms" or "Buy Empire Refrigerators", etc.

### Westernization Scale

Hypothesis 5 required the administration of a scale to the subjects which measured their extent of western orientation. Since no ready made instrument was available, a scale was specially constructed for this purpose. A list of 40 statements were generated representing western and oriental values. These were rated by 20 judges, each statement being rated for its representation of western or oriental values and for intensity of such representation. Fifteen statements were finally selected on the basis of consensus they received from the judges. Seven of these statements represented western orientation and eight oriental values. Subjects were asked to indicate their degree of agreement or disagreement with each statement on a five-point scale ranging from strongly disagree to strongly agree. All statements were assigned equal weights and a final western orientation score was computed for each subject. A strong agreement with a western value statement was assigned five points and a strong disagreement was assigned one point. Conversely a strong disagreement with an oriental value statement was assigned five points (since it represented the subjects' western orientation) and strong agreement one point. All subjects receiving a total of 50 points or more from a maximum possible score of 75 were classified as non-western. The statements finally used in the scale were :

1. Marriage decisions are best left to parents (oriental).
2. Convent education for girls is a must (western).
3. People who go for dances in clubs/hotels are very "fast" (oriental).
4. A wife must never refer to her husband by name (oriental).
5. Dating amongst teenagers should be encouraged (western).



6. Matching of horoscopes to decide marriages is an unnecessary ritual (western).
7. Judgement of elders must always be accepted (oriental).
8. There should be a greater number of nude pictures in magazines (western).
9. Respectable women should not smoke (oriental)
10. Rice should be eaten only with a spoon/fork in the presence of guests (western).
11. After dark, teenage girls must go out, if at all, only with family members (oriental).
12. A son should not smoke in front of his father (oriental).
13. Young widows should be encouraged to remarry (western).
14. Kissing in Indian movies should be allowed (western).
15. A woman's place is in the home (oriental).

### Methodology

Seventy adults, with the average age of 24 and education above higher secondary with an average of three years in college, were recruited as subjects for the study. Forty two subjects were females and 28 males. Mixed groups of males and females in small groups of ten were invited at a time for participation in the experiment. After a brief disguised introduction to the study, the group was requested to carefully view the slides projected on the screen and be prepared to answer some questions about the slides they had viewed. All the ten slides, one at a time, were projected to the group first for a period of 20 seconds each. The order in which the slides were projected was randomized for each group. Immediately after the completion of first slide projection, the subjects were requested to view the slides once again. The order of second projection was kept the same as in the first projection but exposure time in the repeat projection was reduced to 5 seconds for each slide. After the repeat projection of slides, the subjects were requested to

recall,\* in any order, all the products and brand names they could remember from the slide projection and record their recall on a separate sheet of paper for brands and products. About half the groups were first asked to recall the products and then the brands and the remaining half first the brand names and then the products. The subjects were not allowed to refer to their recall of products/brands recorded earlier while recalling the brands/products at the second stage. Nor were they allowed to discuss with each other anything about the brands/products they had recalled. At the third stage, they were again requested to individually and independently record all the product-brand match they could remember, again without reference to their previous sheets.

At this stage slides were once again projected for 10 seconds each in the same order as the previous viewing but this set of ten slides had only the model, without the brand name, product name, product illustration and copy. The subjects were once again asked to recall\*\* and record the products, brand names, and product-brand match associated with each model. The recording procedure was essentially the same as discussed earlier except that all recording about brand and product associated with each model was done immediately after each slide was projected.

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\* Recall after the two initial projections has been later termed as first round recall.

\*\* Recall after the projection of slides with models only (without any written words and product illustration) has been later termed as second round recall.

After this projection was over, half the groups were given a list of all the brands that were projected and asked to recall\* the products associated with each brand. The other half were given a list of all the products and were asked to recall the brands

After all the recall task was completed, the subjects were administered the westernization scale. The purpose of the scale was not disclosed and subjects were only requested to indicate their agreement/disagreement on a few items of general interest. The subjects were, then, debriefed on the real purpose of the research and thanked for their participation. They were served some refreshment but no fee was paid for participation in the experiment. Recruitment of subjects and administration procedures used were organised in a way that there was very little possibility of subjects in later groups getting information about the experiment from participants in earlier groups.

### Results

Hypothesis 1 : The number of correct recalls in Table 1 indicates that recalls for non-sexual ads (level 0) were higher than for the other four levels. This is true for recall of brands, products and the two matched together. Three separate analyses of variance for the basic data presented in the first three columns of Table 1 indicated a significant overall difference in the recalls for all

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\* Aided recall with products/brands lists has been termed later as third round recall.

the three types, product, brand and the product-brand match at  $\alpha = .05$ . A Scheffe test confirmed that level 0 (non-sexual landscape illustration) consistently resulted in significantly higher recall than the four sexual illustrations with  $\alpha = .05$ . The data, thus, support Hypothesis 1. Significantly more correct recalls were made for the ads containing non-sexual landscape scenes than for those with sexual female models. It is, thus, clear that subjects paid greater attention to the written words like product and brand advertised in the case of non-sexual ads while sexual models perhaps attracted more attention to themselves and less to the written word, thereby resulting in lower recall. This is further supported by data in Table 3. When subjects were given product names and were asked to recall the brand names associated with each product or vice versa, the aided recall in the case of non-sexual ads again was better than sexual ads, though differences were significant only at  $\alpha = .2$ .

Table 1  
First Round Correct Recall\*

Sexual Level	Total Recalled			Total
	Brand Name	Product	Product-Brand+ Match	
0 (Landscape - non-sexual)	91 <sup>@</sup>	95 <sup>@</sup>	69 <sup>@</sup>	255
I	74	85	53	212
II	73	83	57	213
III	74	81	60	215
IV	75	87	57	219

\* Possible scores under each column were 140 since each subject could recall upto 2 brands/products, etc. for each level and sample size was 70.

+ Only correct matchings were counted.

@ Level 0 recalls were significantly different than recalls at other levels

Table 2

Second Round Correct Recall Associated with Illustration\*

Sexual Level	Total Recalled			Total
	Brand Name	Product	Product-Brand Match	
0 (Non-sexual)	87 <sup>@</sup>	93 <sup>@</sup>	74 <sup>@</sup>	254
I	94	100	84	278
II	97	99	88	282
III	101	112	93	306
IV	103	110	91	306

\* Possible scores under each column were 140 since each subject could recall upto 2 brands/products, etc. for each level and sample size was 70.

@ Level 0 recalls were significantly different than recalls at other levels with  $\alpha = .05$ .

Table 3

Third Round Recall Aided by Product/Brand Names

Sexual Level	Recall of Brands aided by Products	Recall of Products aided by Brands
0	85 <sup>+</sup>	101 <sup>+</sup>
I	78	95
II	82	99
III	74	89
IV	80	96

<sup>+</sup> Level 0 recalls were significantly different from the rest at  $\alpha = .2$

This is as far as simple recall goes. Data in Table 2 are more revealing. When subjects were shown each ad again in the second round and asked to recall the brand/product, etc., recalls in the case of non-sexual ads were significantly lower at  $\alpha = .05$  than those for the sexual ads. All the sexual ads did better than non-sexual ads for all the measures of recall. The conclusion is clear. Non-sexual ads attracted so little attention to their illustration that though resulting recall was better, the association of the products/brands with the illustration was poor. On the other hand, in the case of sexual ads, though the resulting recall was lower, the association of the product/brand with the illustration was significantly higher.

Hypothesis 2 : For the second hypothesis, the differences among the total recalls in sexual level I through IV (Tables 1 & 2) were tested by the Chi-square test for differences in probabilities. First sexual levels I & II were analyzed as a pair, then levels II & III and lastly levels III & IV. None of the differences among various pairs and across different recall measures for both the first round and second round recall scores turned out to be significant even at  $\alpha = .2$ . Hypothesis 2, thus, was not supported. Recall scores did not significantly decrease as the degree of sexual exposure in the ads increased.

Hypothesis 3 : First of all, data for recall measures for non-sexual ads were examined for a comparison of the relative recall scores of males and females. The data are presented in Table 4.

Table 4

Comparative Recall Scores of Males and Females for Level D (Non-sexual Ad)

Brand Recall*	First Round			Second Round			Total
	Product Recall*	Brand-Product Match**	Brand Recall	Product Recall	Brand-Product Match		
Male (n=28)	41 (1.46) <sup>+</sup>	43 (1.54)	30 (1.11)	34 (1.21)	37 (1.32)	31 (1.11)	21
Female (n=42)	50 (1.19)	52 (1.04)	39 (.93)	53 (1.26)	56 (1.33)	43 (1.02)	29

\* Differences significant at  $\alpha = .05$ .

\*\* Differences significant at  $\alpha = .1$ . Recall scores are actual and have not been adjusted for unequal group sizes of males and females.

+ Figures in brackets give group means.

The Chi-square analysis indicated that males generally scored higher recall in the first round, differences being significant at **at least** .1 level. However, in the second round, when they were again shown the slides, their association of illustration with brands/products was no better than females, none of the differences being significant. In any case, for non-sexual ads, males do seem to somewhat, get better recall of brands/products, etc.

For sexual ads the position is reversed and females ~~consistently~~ recalled better than the males. This was true of both the rounds. Table 5 presents data on the comparative recall scores of males and females for different levels of sexual ads. The Chi-square test indicated that out of

the 24 comparisons made, females scored significantly higher recalls in as many as 12 comparisons. Their recalls were better in rest of the 12 comparisons also but differences did not achieve statistical significance. Thus hypothesis 3 received partial support. Recalls were better for females than for males.

Table 5\*  
Comparative Recall Scores of Males and Females for Sexual Ads.

Sexual Level**	First Round						Second Round					
	Brand Recall		Product Recall		Brand-Product Match		Brand Recall		Product Recall		Brand-Product Match	
	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Ma- les	Fe- males	Males	Fe- males
I	<u>24</u>	<u>50</u>	32	53	<u>16</u>	<u>37</u>	<u>32</u>	<u>62</u>	35	65	30	54
II	<u>25</u>	<u>48</u>	32	51	<u>19</u>	<u>38</u>	<u>28</u>	<u>69</u>	<u>31</u>	<u>68</u>	<u>26</u>	<u>62</u>
III	<u>23</u>	<u>51</u>	<u>29</u>	<u>52</u>	<u>18</u>	<u>42</u>	39	62	43	69	34	59
IV	<u>21</u>	<u>54</u>	33	54	20	37	37	66	41	<u>69</u>	33	58
Total	93	203	126	210	73	154	136	259	150	271	123	233
Means	3.32	4.83	4.50	5.00	2.61	3.66	4.86	6.17	5.36	6.45	4.40	5.55

\* n = 70 (Males = 28 and females = 42)

\*\* All the underlined pairs were significant at  $\alpha = .1$ . Recall scores have not been adjusted for unequal group sizes of males and females.



Hypothesis 4 : This hypothesis stated that products which were congruent with the use of female sexual illustrations would generate better recall than the non-congruent products. Table 6 presents data on recalls of congruent vs. incongruent ads. Congruent ads generally scored better recall, though the differences were significant only in two of the six comparisons made. The hypothesis, thus, received only partial support. Congruent ads generally received higher recall for almost all levels of sexual exposure.

Table 6

Recall for Sexual Ads: Congruent Vs. Incongruent

	First Round			Second Round			Total
	Brand Recall	Product* Recall	Brand-Product Match	Brand* Recall	Product Recall	Brand-Product Match	
Congruent <sup>+</sup>	152	193	117	214	220	181	1077
Incongruent <sup>+</sup>	144	143	110	181	201	175	954

\* Significant at  $\alpha = .1$ .

+ Equal number of correct recalls were possible for congruent and incongruent ads.

Hypothesis 5 : It was hypothesized that subjects with western orientation will receive better recalls than those who were not so westernized. Forty subjects who received a score of 50 or more on the westernization scale were classified as westernized. Recall comparison of the two groups was made for

the two extreme sexual levels III & IV. The data are presented in Table 7. In the first round recall, westernized subjects did score higher and in 4 out of 6 comparisons, the differences were significant at .1 level. In the second round recall, the non-western subjects scored better on sexual level III while western subjects scored better for level IV. Though many comparisons of second round recall were not statistically significant, the trend was clear. Extreme sexuality generated better recall for westernized subjects while moderate sexuality worked better on non-westernized subjects. It may be mentioned here that non-westernized subjects in this study were not very traditional. They were somewhat westernized (majority scored between 40 and 50 on the scale) but not highly westernized.

Table 7\*

Recall For Sexual Ads: Western (W) Vs. Non-Western (NW) Subjects

Sexual Level	First Brand Recall						Second Round Recall					
	Brand		Product		Brand-Product Match		Brand		Product		Brand-Product Match	
	W	NW	W	NW	W	NW	W	NW	W	NW	W	NW
III	48 (1.20)	<u>26</u> (.87)	<u>53</u> (1.32)	28 (.93)	<u>42</u> (1.05)	18 (.60)	<u>53</u> (1.32)	48 (1.60)	<u>60</u> (1.90)	<u>52</u> (1.73)	52 (1.30)	41 (1.37)
IV	46 (1.15)	29 (.97)	<u>56</u> (1.40)	<u>31</u> (1.03)	34 (.85)	23 (.77)	62 (1.55)	41 (1.37)	68 (1.70)	42 (1.40)	58 (1.45)	33 (1.10)

\* n = 70; 40 western subjects (W) and 30 non-western subjects (NW).

+ Differences in the underlined pairs are significant at  $\alpha = .1$ . Recall scores have not been adjusted for unequal group sizes for western and non-western subjects.

@ Figures in brackets give group means.

### Conclusions

The data support hypothesis 1. Significantly more correct recalls were made for ads containing a non-sexual landscape scene than for those with female illustrations of varying sexual suggestiveness. The study, thus, confirms the findings of earlier researches. However it draws an entirely opposite conclusion. In this study, the idea of recall was extended to a second round where subjects were once again exposed to illustration (or model) only and asked to recall brands and products. In these recall attempts, sexual ads demonstrated a better potential of their ability to make the audience associate the brand and product with the illustration and that is what an advertiser is interested in. In his repeat advertising, he wants his illustration to first attract attention and then almost automatically achieve the purpose of reminding the audience of the brand and product advertised. The second round recall, to our mind, is more reflective of the real-life advertising conditions and it seems that advertiser would be better off using human models than non-human scenic type illustrations. The conclusion of Alexander & Judd as well as Steadman that non-sexual ads are more effective in producing recall, though technically valid, is very superficial and hasty. The second round recall clearly establishes the validity of the reverse argument.

Hypothesis 2 is not supported. Recall is not significantly related to the degree of sexual exposure. This finding is consistent with earlier studies.

Hypothesis 3 received partial support. There was a general tendency that sexual ads received higher recall on the part of female subjects than male subjects. Whether male models would do better for males is a subject for future research?

Hypothesis 4 also received partial support. Congruent ads, where product advertised was consistent with the use of female models, generally received higher recall than non-congruent ads.

Hypothesis 5 was confirmed in the first round recall but again the conclusion is not fully borne out in the second round recall, where westernized subjects scored higher recall only for sexual level IV, while non-western subjects produced higher recall scores for sexual level III. Thus, extreme sexual exposure generated better recall for westernized subjects while moderate sexual exposure was more effective with the less westernized subjects.

When recall is the primary objective of advertising, the study indicates the following recommendations :

1. Human illustrations are more effective than landscape scenes.
2. Sexual illustrations are more effective for products where use of sex is consistent with the nature of the product.
3. Female sexual illustrations are more effective when ad is directed towards women.
4. Extreme sexual exposure is recommended only for highly westernized audience. In most cases advertiser would be better off using moderate (or lesser) sexual exposure, consonant with the values of the audience.

### Limitations

The following limitations of the study should be kept in mind while examining the results :

1. The sample of the study was drawn from young, educated and somewhat westernized sections of the society.
2. Though a number of steps were taken to make the experiment as close to reality as possible, various controls exercised did make the situation somewhat artificial.
3. In real-life advertising, repeated insertions of the same ad may result in overcoming disproportionate attention to the illustration, thereby improving recall. In fact, this was quite evident in the second round recall as compared to the first round.
4. In actual ads illustration is generally well integrated with the rest of the ad. It is so woven with copy, slogan, product illustration, etc., that the ad is generally seen as a whole. In the experimental ads constructed for this study, such design features were somewhat weak.

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