TOWARD A METHODOLOGY FOR ASSESSING EFFECTS OF IN-STORE ATMOSPHERICS

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Abstract

This paper aims to facilitate the development of methodological approaches to investigate the influence of atmospheres on consumer perceptions of physical sensations. An empirical study is used to investigate two critical issues:

(1) the feasibility of creating effective manipulations of store image in a lab through verbal descriptions, and

(2) the effects of method type (third person versus role playing) on consumers' product perceptions.

The findings provide initial support for the feasibility of simulating store atmospheres with written descriptions. They suggest that such descriptions systematically affect consumer perceptions of physical sensations. The findings also imply that assessments of the effects of atmospheres are not biased by the use of role playing or third party methodologies. Suggestions for future research are provided.

Introduction

Pragmatic and intellectual challenges motivate researchers to examine the effects of marketing variables on consumer behavior. On a pragmatic level, understanding such effects facilitates the development of effective marketing strategies. On an intellectual level, insights into the effects of marketing variables on consumer behavior enhance our knowledge of human behavior in general.

Research indicates that non-product factors influence consumer perceptions of physical stimuli. Shimp and Yokum (1982) manipulated formulation and advertising content for fictional soft-drinks in order to create expectations and disconfirmation of these expectations. They found that taste ratings and repeat-purchase behavior were negatively related to disconfirmation but positively associated with the favorability of subjects' reactions to the advertisement. Huber, Holbrook and Schiffman (1982) manipulated formulation and taste conditions for a fictional citrus drink to investigate the impact of situational factors on sensory impressions. Taste condition was manipulated by having subjects exercise or not preceding taste tests. Findings indicate that exercise, a non-product factor, affected sensory perceptions.

One non-product factor of particular interest to marketers is atmospheres. Research in social psychology indicates that ambient settings strongly influence perceptual processes. For example, H.W. Smith (1978) studied the effects of social setting on perceptions of feeling "high" among experienced marijuana users. All subjects were given placebos and told that the pills had a 50/50 chance of being THC, the active component of marijuana. Subjects given the pills in a group setting reported feelings of "being high" and acted in ways which were associated with drug experiences, while subjects given the pills in solitude neither reported such feelings nor performed such behaviors. These findings suggest that the social and cultural aspects of drug consumption in group settings influence users' perceptions of their physical sensations.

In a marketing context, Kotler (1974) has suggested that store atmosphere may affect product perception and so, be considered one of the most significant influences on product. Obermiller and Bitner (1986) have suggested that the importance of atmospheres in brand evaluation may vary by product type and level of involvement. Donovan and Rossiter (1982) suggest that retail store selection studies emphasize cognitive influences (e.g., price, location, quality of merchandise), and neglect the influence of store atmosphere. They suggest that emotional responses induced by in-store environments are primary determinants of the extent to which individuals spend money beyond their original expectations. Gardner (1985a) has suggested ways in which point-of-purchase settings may affect consumer mood states, which in turn may affect in-store beliefs and evaluations.

Methodological Issues

Given the importance of understanding the effects of atmospheres on consumer perception of physical sensations, it is surprising that greater emphasis has not been placed on the development of research approaches to study such influences. This paper aims to facilitate the development of this important area by examining two critical issues:

(1) the feasibility of creating effective manipulations of store image in a lab through verbal descriptions, and

(2) the effects of method type (third person versus role playing) on consumers' product perceptions.

Verbal Descriptions

Several approaches can be used to study the effects of atmospheres on physical sensations. One general typology of methods involves field and lab experiments. In field experiments, although the realism of the phenomenon being studied is apparent, there are two related problems: First, cover stories for random assignment of subjects to atmospheres conditions may be obtuse or transparent, resulting in confusion or demand characteristics, respectively. Second, if random assignment of subjects to conditions is not achieved, selection bias will result (Campbell and Stanley 1963). In lab experiments, random assignment of subjects to conditions is relatively easy, but the creation of store atmosphere is often difficult and expensive. Researchers can attempt to simulate the atmosphere through verbal descriptions of in-store characteristics. It is not at all clear, however, that verbal descriptions of atmosphere can be powerful enough to systematically affect consumer perceptions of physical sensations. One goal of this study is to evaluate the feasibility of simulating in-store atmosphere with verbal descriptions. Specifically, we ask: Can verbal descriptions systematically affect consumer perceptions of physical sensations? If the answer is affirmative - i.e., if verbal descriptions can systematically affect perceptions - future research could be used to refine the descriptions and compare their effects to those obtained under field conditions.

Method Type

Approaches to research the effects of atmospheres on consumer behavior may involve projective techniques with subtle but important differences in semantics. The term "role playing" will be used to refer to techniques which require subjects to imagine themselves in hypothetical situations and to respond accordingly. The term "third person" method will be used to refer to techniques which require subjects to respond as they believe others would in hypothetical situations.

In some ways, role playing and third person methods are related to personal and societal judgments. The term "personal judgments" is used to refer to judgments about
oneself, and the term "societal judgments" is used to refer to judgments about other people (Tyler and Cook 1984). The impersonal impact hypothesis (Tyler 1980, Comstock 1982, Hawkins and Fingree 1987) has been developed to examine personal and societal level judgments about social phenomena. Tyler and Cook (1984) have examined this hypothesis using a wide variety of natural and social hazards. Their findings indicate that individuals separate personal from more general views of the world, and that societal, but not personal judgments, are affected by media events.

This might suggest that third person methods may be more sensitive to the effects of situational factors than role playing methods. Note, however, that the social psychology paradigm used to investigate the impersonal impact hypothesis may not be fully relevant to experiments involving atmospheres. One reason why social psychologists may have found that media has a greater influence on societal level judgments than on personal level judgments may be due to the fact that societal judgments involve direct inferences from the information presented in the media. For example, verbal reports of social risks, such as those used by Tyler and Cook, depict "others" in a host of situations. Note that personal judgments are only indirectly related to the opinions or experiences of "others" appearing in media stories. In contrast, marketers interested in the effects of atmospheres may be able to create involving settings or scenario for use with either third person or role playing methods. We ask: Do role playing and third person methodologies systematically bias the findings of studies of the effects of atmospheres?

Research Approach

This paper presents an empirical study of the effects of written descriptions and method type on consumers' product perceptions. If written descriptions of store atmospheres can simulate field conditions, product ratings will be more favorable for subjects exposed to descriptions of high image stores than for those exposed to descriptions of low image stores. Such ratings are expected to reflect features of stores associated with the descriptions.

If method type affects consumers' product perceptions as postulated by the impersonal impact hypothesis, written descriptions and method type would interact to affect product ratings. As depicted in Figure 1, ratings would be most favorable for subjects exposed to a high image description and assessed by a third person method and least favorable for subjects exposed to a low image description and assessed by a third person method.

Method

Subjects

Eighty subjects participated in the study. All were full time employees of a major corporation in New York City. Subjects varied in occupation, race, and age (18 to 65 years) and participated voluntarily, with neither coercion nor financial compensation.

Independent Variables

Verbal Descriptions

In order to examine whether or not verbal descriptions of atmospheres can be powerful enough to systematically affect consumer perceptions of physical sensations, two descriptions were used. One involved a low image store described as follows:

"...The lighting is very bright and harsh...the aisles are narrow and the counters and racks crowded and messy...the floors are white--dirty, dingy white--asbestos tile...there is no soothing background music...the mannequins are disheveled and wearing daddy clothes which do not fit...the sales persons are sloppily dressed, nasty and uncooperative, as are the customers...the dressing rooms consist of one big, smelly room with a couple of mirrors and no privacy...generally there is a feeling of seclusion all around you."

The other description involved a high image store, described as follows:

"...The lighting is indirect and subtle...the aisles are wide and the counters and racks neat and uncrowded...the floor is covered with plush, bright carpeting...there is soothing mood music playing in the background...mannequins are attractive and very fashionably attired...the sales persons are sophisticated, friendly and cooperative, as are the customers...generally, there is a feeling of elegance all around you."

Method Type

To examine the effects of role playing and third person methodologies, two sets of instructions were used. Role playing instructions asked subjects to imagine being in a high/low image department store. Third person method instructions involved telling subjects that "other" subjects were asked to imagine themselves in a high/low image store, and asking subjects to project the responses of those "others".

Experimental Design

A 2 X 2 full-factorial experimental design was used. As discussed in the dependent variables section, the two levels of Verbal Description were high and low image and the two levels of Method Type were role playing and projection. Equal numbers of males and females were assigned to each of the four experimental conditions, but otherwise, subjects were randomly assigned to treatments.

Product Selection

To examine perceptions of physical sensations, we chose to focus on assessments of the scent of a fragrance. Although consumers claim to base fragrance purchases on their evaluations of products' scent, marketers spend a large proportion of their advertising budgets associating non-product features with their brands. According to Pearl Nippon, who with her husband, has fashioned the floral/Oriental fragrance Albert Nipon, "fragrance conjures up images, memories and dreams" (Vogue, 1983). Frangipani was selected for use in this study, because pretests indicated that it did not generate a consistent or strong set of beliefs or associations. In addition, the scent was not recognized and did not evoke strong affective reactions. It was presented as a "new" fragrance with no brand information provided.

FIGURE 1

PRODUCT RATINGS

Third Person Method

Role-Playing Method

HIGH IMAGE DESCRIPTION

LOW IMAGE DESCRIPTION

First, the experiment will be described, and findings presented. Then, implications for the development of methodologies to investigate atmospheres will be discussed.
Procedure
Subjects participated individually in what they were told was a test of a new fragrance sold in a local store. Each subject was asked to read one of the method type instructions and one of the verbal descriptions. (For instructions and descriptions, see Independent Variables section.) After reading the appropriate scenario, each subject was instructed to write the name of the store which the scenario brought to mind and the number of times s/he had shopped in that store in the past six months. Subjects in the high image store (verbal description) condition were asked to describe the one thing they liked most about the store they mentioned. Those in the low image store (verbal description) condition were asked to describe the one thing they disliked most about the store they mentioned. These exercises served to embed the "store surroundings" in the subject's mind. All subjects were instructed to recall all of the things around them in the store. They were then asked to sniff the fragrance and to complete a questionnaire containing the dependent variables.

Dependent Measures
Fragrance advertisements were examined to generate a pool of potential items for inclusion in the questionnaire. Informal interviews were used to select from this pool those phrases used by consumers to describe their perceptions of a scent. The items selected were: likeable, sophisticated, youthful, sexy, sporty, exotic, modern, and traditional.

Two types of measures were assessed. Subjects were asked to rate the experimental scent using bipolar semantic differential scales (coded 1 to 7) for each item. For example, subjects were asked to rate the experimental scent on a 7-point scale anchored by traditional/not traditional. In addition, subjects were asked to evaluate each item to reflect their feelings about perfumes in general, using scales (coded -3 to +3) with endpoints labeled bad/good. For example, subjects were asked how good or bad they felt it was for a perfume to be traditional. To examine the favorability of ratings, evaluative beliefs were formed by multiplying each rating by its evaluation. Thus, one's evaluative belief for "traditional" reflects both one's rating of the experimental scent on that characteristic and one's evaluation (good/bad) of traditional perfumes in general.

Results
Analysis of variance was used to investigate the effects of verbal descriptions and method. First, the findings for evaluations will be discussed, then the findings for ratings, and finally, the findings for evaluative beliefs (ratings x evaluations).

### Table 1
<table>
<thead>
<tr>
<th></th>
<th>High Image</th>
<th>Low Image</th>
<th>High Image Role-Playing</th>
<th>Low Image Role-Playing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Likeable</td>
<td>2.50</td>
<td>1.55</td>
<td>1.85</td>
<td>1.60</td>
</tr>
<tr>
<td>Sophisticated</td>
<td>2.00</td>
<td>1.61</td>
<td>1.75</td>
<td>1.40</td>
</tr>
<tr>
<td>Youthful</td>
<td>1.15</td>
<td>0.50</td>
<td>0.40</td>
<td>0.70</td>
</tr>
<tr>
<td>Sexy</td>
<td>1.45</td>
<td>1.72</td>
<td>2.10</td>
<td>1.35</td>
</tr>
<tr>
<td>Sporty</td>
<td>0.80</td>
<td>0.78</td>
<td>0.30</td>
<td>0.15</td>
</tr>
<tr>
<td>Exotic</td>
<td>0.65</td>
<td>1.11</td>
<td>1.15</td>
<td>0.75</td>
</tr>
<tr>
<td>Modern</td>
<td>1.05</td>
<td>1.06</td>
<td>0.70</td>
<td>0.50</td>
</tr>
<tr>
<td>Traditional</td>
<td>0.40</td>
<td>0.00</td>
<td>0.30</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Cell means for evaluations of each characteristic for perfumes in general are reported in Table 1. Note that all entries are non-negative, indicating in all conditions all features are on average, evaluated neutrally or favorably. Individual evaluations for each characteristic ranged from -3 to +3. Examination of cellmeans reveals the following pattern of responses across factors: With respect to verbal description, evaluations are more favorable for high image for 7 of the 8 characteristics and equal for 1. This pattern was not postulated a priori and will be discussed in the Discussion section. Analysis of variance results indicate that the main effect for verbal description for likeable/unlikeable approaches significance (p < 0.056). With respect to method type, evaluations are more favorable for third person conditions for 5 of the 8 characteristics, and more favorable for role playing conditions for 3 factors. Analysis of variance results indicate that neither the main effects for method type, nor the verbal description x method type interaction approach conventional levels of statistical significance (i.e., all p's > 0.10).

### Table 2
<table>
<thead>
<tr>
<th></th>
<th>High Image Third Person</th>
<th>Low Image Third Person</th>
<th>High Image Role-Playing</th>
<th>Low Image Role-Playing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Likeable</td>
<td>2.90</td>
<td>2.55</td>
<td>3.60</td>
<td>2.60</td>
</tr>
<tr>
<td>Sophisticated</td>
<td>3.35</td>
<td>2.10</td>
<td>3.75</td>
<td>2.25</td>
</tr>
<tr>
<td>Youthful</td>
<td>3.15</td>
<td>1.95</td>
<td>2.85</td>
<td>3.20</td>
</tr>
<tr>
<td>Sexy</td>
<td>2.95</td>
<td>1.95</td>
<td>3.10</td>
<td>1.80</td>
</tr>
<tr>
<td>Sporty</td>
<td>2.70</td>
<td>2.05</td>
<td>2.05</td>
<td>2.35</td>
</tr>
<tr>
<td>Exotic</td>
<td>2.55</td>
<td>2.15</td>
<td>2.90</td>
<td>2.40</td>
</tr>
<tr>
<td>Modern</td>
<td>3.70</td>
<td>3.90</td>
<td>3.05</td>
<td>2.50</td>
</tr>
<tr>
<td>Traditional</td>
<td>4.70</td>
<td>3.64</td>
<td>3.35</td>
<td>3.45</td>
</tr>
</tbody>
</table>

Cell names of ratings of the experimental scent appear in Table 2. Individual ratings for each characteristic ranged from 1 to 7. Inspection of cell means revealed that for all 8 characteristics, assessments were more favorable for subjects in the high image store (verbal description) condition than for those in the low image store (verbal description) condition. Analysis of variance findings indicate that the main effect for verbal descriptions is statistically significant for three of the variables (sophisticated: p < 0.001; sexy: p < 0.002; modern: p < 0.018) and approaches significance for a fourth (likeable: p < 0.103). Inspection of the means with respect to method type, indicates that ratings are more favorable for third person conditions for 2 of the 8 characteristics, equal for 1 and more favorable for role playing conditions for 5. Analysis of variance does not indicate any significant main effects for method type or for the method type x verbal description interaction - i.e., all p's > 0.10.

### Table 3
<table>
<thead>
<tr>
<th></th>
<th>High Image Third Person</th>
<th>Low Image Third Person</th>
<th>High Image Role-Playing</th>
<th>Low Image Role-Playing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Likeable</td>
<td>7.30</td>
<td>3.75</td>
<td>6.95</td>
<td>5.45</td>
</tr>
<tr>
<td>Sophisticated</td>
<td>7.70</td>
<td>3.50</td>
<td>7.00</td>
<td>3.40</td>
</tr>
<tr>
<td>Youthful</td>
<td>3.30</td>
<td>0.89</td>
<td>0.60</td>
<td>2.90</td>
</tr>
<tr>
<td>Sexy</td>
<td>3.60</td>
<td>3.94</td>
<td>4.20</td>
<td>2.60</td>
</tr>
<tr>
<td>Sporty</td>
<td>3.35</td>
<td>1.84</td>
<td>0.40</td>
<td>1.35</td>
</tr>
<tr>
<td>Exotic</td>
<td>3.90</td>
<td>2.83</td>
<td>4.10</td>
<td>1.70</td>
</tr>
<tr>
<td>Modern</td>
<td>2.95</td>
<td>1.47</td>
<td>2.60</td>
<td>1.35</td>
</tr>
<tr>
<td>Traditional</td>
<td>1.35</td>
<td>-1.55</td>
<td>1.30</td>
<td>0.60</td>
</tr>
</tbody>
</table>

(Evaluative Belief = Rating x Evaluation)
Cell means for evaluative beliefs appear in Table 3. Recall that evaluative beliefs were created by multiplying each rating by its evaluation. Inspection of means reveals that evaluative beliefs are more favorable for subjects exposed to the high image description than for those exposed to the low image description for 7 of 8 characteristics. For the characteristic, "youthful", evaluative beliefs were approximately equal for subjects in the two conditions. Analysis of variance results indicate that the main effect for verbal description is significant for two characteristics (sophisticated: p<0.004; sexy: p<0.014) and approaches significance for two more (likeable: p<0.067; modern: p<0.103). With respect to method type, evaluative beliefs are more favorable for subjects in third person conditions for 5 of the 8 characteristics and more favorable for subjects in role playing conditions in 3. Analysis of variance results indicate no significant main effects for method type, and one interaction which approaches significance (youthful: p<0.092). Examination of means for "youthfulness" do not support the impersonal impact hypothesis - i.e., they do not correspond to Figure 1.

Discussion

Summary

Ratings, evaluations and evaluative beliefs were examined in order to investigate the effects of verbal description and method type on consumer perceptions. Findings indicate:

(1) Evaluations are more favorable for subjects exposed to verbal descriptions of high image stores than for those exposed to descriptions of low image stores, for 7 of the 8 characteristics. This difference approaches conventional levels of statistical significance for only 1 of the characteristics (traditional).

(2) Ratings are more favorable for subjects exposed to verbal descriptions of high image stores than for those exposed to descriptions of low image stores for 7 of the 8 characteristics. This difference reaches conventional levels of statistical significance for 3 characteristics (sophisticated, sexy and modern), and approaches conventional levels of significance for 1 characteristic (likeable).

(3) Evaluative beliefs are more favorable for subjects exposed to verbal descriptions of high image stores than for those exposed to descriptions of low image stores for 7 of the 8 characteristics. This difference reaches conventional levels of statistical significance for 2 characteristics (sophisticated and sexy), and approaches conventional levels of significance for 2 characteristics (likeable and modern). In addition, the written description X method type interaction approaches statistical significance for 1 of the 8 characteristics (youthfulness).

Verbal Descriptions

The findings provide initial support for the feasibility of simulating high and low image store atmospheres with written descriptions. They suggest that such descriptions systematically affect consumer perceptions of physical sensations.

Ratings and evaluative beliefs were generally more favorable for subjects exposed to descriptions of high image stores than for those exposed to descriptions of low image stores. The level of significance associated with each product characteristic may indicate the association of that characteristic with the features of stores associated with the descriptions. For example, Bloomingdale's the store most often associated with the high image description, follows policies which emphasize:

"- discovering the hottest young designers and letting their imaginations run wild
- turning the marketing of clothing, find and home furnishings into an art
- searching the globe to uncover - and invent - new trends
- creating sophisticated boutiques to rival the finest galleries
- using sophisticated promotions." (Stevens 1979).

These strategies may lead to a store image which is sophisticated, sexy and modern, the characteristics with relatively high levels of significance. Although some of the effects of verbal descriptions may be attributable to demand characteristics, the relationship of significance levels to features of the stores elicited by subjects suggests that responses were mediated by relevant internally generated cues.

Second, evaluations of attributes were generally more favorable for subjects exposed to descriptions of high image stores than for those exposed to descriptions of low image stores. Although this finding was not postulated a priori and only approached conventional levels of statistical significance, it suggests that subjects were responding to the verbal descriptions and provides direction for future research. One postulate may be that verbal descriptions affect consumer mood states which, in turn, affect evaluations (Clark and Isen, 1982; Gardner, 1985b).

Method Type

The findings fail to indicate an effect due to method type. The main effect did not approach conventional levels of statistical significance for any variable for any characteristic. The method type X verbal description interaction approached significance for only one of the 24 analyses of variance, well within the number expected by chance. These results suggest that, contrary to the impersonal impact hypothesis, assessments of the effects of atmospheres may not be biased by the use of role playing or third party methodologies. It appears that the verbal descriptions were equally involving, vivid, and informative under the two method type conditions.

Implications

The findings reported provide suggestions for future research involving the effects of atmospheres on consumer product perceptions. They indicate that method type may be relatively unimportant and that either third person or role playing methodologies may be used. Future research is needed to examine the effects of method type in studies of topics and products which are sensitive, personal or "embarrassing." Further investigations are also needed to explore the effects of method type on different types of beliefs and on consumers with various levels of product class knowledge.

The findings reported also suggest that verbal descriptions can be developed which systematically influence perceptions. Additional research is needed to compare the effects of verbal descriptions with those of their real-world counterparts and to examine the effects of verbal descriptions which vary along a continuum from extremely negative to extremely positive.

References


Comstock, G (1982), "High and Low Image Store Atmospheres: An Overview," in D. Pearl, L. Bouthilet, and J. Lazar (Eds.),


