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The Journal of Consumer Research, Vol. 12, No. 3 (Dec., 1985), 301-315.

Stable URL:
http://links.jstor.org/sici?sici=0093-5301%28198512%2912%3A3%3C301%3AACLACC%3E2.0.CO%3B2-%23

The Journal of Consumer Research is currently published by Journal of Consumer Research Inc..

A Closer Look at Classical Conditioning

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Classical conditioning has become a focus of growing interest as a basic framework for interpreting advertising effects. This article argues that a more precisely specified, affective-conditioning hypothesis merits close attention from consumer researchers, in part because little unequivocal evidence is available to uphold its viability. A study that extends Gorn's (1982) recent investigation of affective conditioning is reported. The new data furnish little support for the affective-conditioning hypothesis and implicate an alternative theoretical explanation.

Classical conditioning is generally accepted in the consumer behavior literature as a mechanism relevant for understanding and producing advertising effects. For example, Schiffman and Kanuk conclude that "a great deal of advertising fits the model of conditioned learning" (1983, p. 176), while others observe that "the ability of commercials to form associations by classical conditioning is well established and widely used" (Hawkins, Best, and Coney 1983, p. 314). Engel and Blackwell surmise guardedly that "advertising programs are sometimes built upon the principles of classical conditioning" (1982, p. 238). Kroeber-Riel's position is more extreme. He worries that (1979, p. 240):

> to a large extent the consumer responds automatically, according to biologically determined patterns of behavior. Almost like an animal, s/he can be manipulated by classical conditioning. In short, there are biological limits imposed on consumer sovereignty—on the person's deliberate and conscious control of his/her behavior.

Communication researchers' interest in the classical conditioning framework has intensified recently; it is now common to find conditioning offered as one possible explanatory mechanism in the "peripheral route" to persuasion (cf., Allen and Madden 1983; Edell and Burke 1984; Lutz 1985; MacKenzie and Lutz 1982; Mitchell and Olson 1981; Moore and Hutchinson 1985; Petty, Cacioppo, and Schumann 1983; Ray and Batra 1983; Shimp 1981). This growing interest in conditioning can be traced to the view that on some, and perhaps even on many occasions, consumers approach their consumption decisions in an uninvolved/passive fashion (e.g., Assael 1984; Engel and Blackwell 1982; Kassarjian 1978, 1981; Olshavsky and Granbois 1979). Indeed, there appears to be an emerging consensus that classical conditioning is especially germane in passive/uninvolving consumption contexts (cf., Engel and Blackwell 1982; Gorn 1982; Greenwald and Leavitt 1984; Hawkins et al. 1983; Lastovicka 1979; Ray and Batra 1983; Schiffman and Kanuk 1983). In addition, Zajonc's provocative thinking (Zajonc 1980; Zajonc and Markus 1982) has stimulated many consumer researchers to contemplate the possibility that brand preferences may be formed, at least in some low involvement instances, via noncognitive/noninformational mechanisms. Conditioning is one of the few frameworks that can potentially accommodate the notion that preference may develop through some automatic, noncognitive system (Fishbein and Ajzen 1975).

Given this apparent acceptance and even intensifying interest in conditioning, the lack of consumer research in the area represents a major void. With the notable exception of Gorn's (1982) recent experiments, consumer researchers have generated no substantive information about conditioning mechanisms. If the conditioning of attitudes/preferences were a widely accepted scientific truth in another discipline, this lack of consumer research might be less of a concern—but this is hardly the case. Brewer's thorough review of conditioning studies with humans is both impressive and damaging: he concludes that "there is not and never has been any convincing evidence for unconscious, automatic mechanisms in the conditioning of adult human beings" (1974, p. 27). In addition, the question of whether or not attitudes can be classically conditioned has attracted nothing but controversy (e.g., Brewer 1974; Fishbein and Ajzen 1975; Hare 1964, 1965; Insko and Oakes 1966; Kiesler, Collins, and Miller 1969; Page 1969; Petty and Cacioppo 1981; Rozelle 1968; Staats

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1969) since the Staatses (1957, 1958) first argued the case.

A general objective of this article is to focus attention on classical conditioning by establishing its place in the ongoing debate over the affective and cognitive processes that may underlie preference. This article also delineates three forms of conditioning research that differ in the types of responses that are being conditioned. The discussion then considers the "state of the art" of consumer conditioning research—Gorn 1982; his work is critiqued, and a study designed to extend it is presented. The new data challenge Gorn's conclusions and suggest an alternative theoretical process. The article closes by presenting ideas about a possible theoretical competition which, if pursued empirically, should enhance understanding of the interplay between affect and cognition in preference generation.

CLASSICAL CONDITIONING: AFFECT TRANSFER WITHOUT AWARENESS?

The domain of the conditioning paradigm revolves around the transfer of responses between stimuli. Brewer states (1974, p. 1):

> The traditional hypothesis for classical conditioning is that the repeated pairing of a Conditioned Stimulus (CS) with an Unconditioned Stimulus (US) will cause the CS to elicit a Conditioned Response (CR) in an *unconscious, automatic* fashion.

However, complexity is quickly added to the paradigm as one recognizes that it has been used by researchers to examine very diverse response systems across different species. It is unlikely that all forms of conditioning research will be equally germane to the study of consumer behavior phenomena. Adopting this premise, it then becomes useful to partition conditioning research to highlight the work that is most relevant for consumer researchers.

Partitioning Classical Conditioning Research

The conditioning literature can be meaningfully partitioned by categorizing the forms of response that have been investigated. Consumer behavior discussions often feature the experiments of Pavlov (e.g., Assael 1984; Engel and Blackwell 1982; Hawkins et al. 1983; Nord and Peter 1980; Schiffman and Kanuk 1983) without critically evaluating the generalizability of this type of research program for consumption phenomena. The massive group of studies in this area (e.g., Brewer 1974; Hall 1976; McSweeney and Bierley 1984) deals with the transfer of very simplistic responses controlled by the autonomic (e.g., salivary conditioning) and skeletal (e.g., eyeblink conditioning) nervous systems. These studies constitute one very distinctive form of conditioning research. But as McSweeney and Bierley have emphasized in their recent review, classical conditioning principles developed in the animal laboratory "may not hold in the more complicated real world settings in which consumer behavior takes place" (1984, p. 629). To illustrate, it is certainly an ambitious exercise in generalization to use research on rabbits' nictitating membrane responses to draw implications about advertising's influence on consumer preferences (McSweeney and Bierley 1984). However, there are other streams of conditioning research that have greater possible relevance to the consumption arena.

The Staatses worked with the conditioning model in a response domain far removed from salivation and eyeblinks. In a typical experiment (Staats and Staats 1957), they paired visually presented nonsense syllables with a number of spoken evaluative words of common meaning (e.g., beauty, healthy, smart, success). Subjects' subsequent ratings suggested that the evaluative meaning of the words transferred to the nonsense syllable. As described by Insko and Oakes (1966), a cognitive change in the symbolic significance of the nonsense syllable seems to occur: the nonsense syllable becomes a new symbol for the old concept previously represented by the group of evaluative words. The Staatses' work has been considered quite important because it indicates that words acquire meaning as an implicit response; it can also be interpreted as demonstrating that something as cognitively complex as word meaning can be conditioned in an unconscious, automatic process (Brewer 1974). This transference of evaluative meaning or associative learning (e.g., Zajonc, Markus, and Wilson 1974) is the focus in a second unique stream of conditioning research.

A third variety of response can also be linked to the work of the Staatses (1958), although its roots can be found two decades earlier in the experiments of Razran (1938, 1940). This research has examined the transfer of purely affective or emotional responses. Insko and Oakes remarked that "it is not clear from the discussions of previous researchers (they are referring here to the work spawned by the Staatses) whether the conditioning of attitudes was intended to be a conditioning of symbolic evaluative meaning, or of affect, or of both" (1966, p. 495). The same imprecision characterizes more recent discussions of attitudinal conditioning (e.g., Mitchell and Olson 1981; Petty and Cacioppo 1981). Insko and Oakes (1966) took the position that groups of words, like a poem, may arouse affect, but single words or adjectives are not likely to have this potential in most instances. Indeed, one may gain an important degree of theoretical precision by treating affective conditioning and the conditioning of meaning as separate paradigms. Such a distinction is consistent with the argument that affective registrations versus reports of attitude/preference are conceptually and perhaps even empirically distinguishable (cf., Abelson et al. 1982; Lazarus 1984). In retrospect, it seems appropriate to characterize the Staatses' (1957, 1958) experiments and

the subsequent research stream as dealing with the transfer of evaluative meaning, and not the transfer of affect.

Although not as numerous as those concerned with the conditioning of meaning, there are studies that attempt to demonstrate direct affect transfer (e.g., Bleda, Bell, and Byrne 1973; Dabbs and Janis 1965; Janis, Kaye, and Kirschner 1965; Razran 1938, 1940; Watson and Rayner 1920). Notably, Gorn's experiments can also be portrayed as investigations of genuine affective conditioning. Since so many of the message execution tactics (e.g., pleasant music, humor, touching social interactions, attractive color, stunning visual imagery, celebrity spokespersons, sex) used by advertisers have the potential to temporarily influence viewers' affective/feeling states, consumer researchers should find it especially productive to focus on this third form of conditioning. Although the viability of the affective-conditioning hypothesis is the specific concern of this article, we certainly do not argue that other streams of conditioning research are necessarily irrelevant to the study of consumer behavior.

But What Is Your Subject Aware Of?

It is probably already apparent that "awareness" has been a central issue in conditioning research with humans. As Dulany puts it: "Is, or is not, awareness necessary and causal in the production of what we have called conditioning?" (1974, p. 52). The Staatses (1957, 1958) claim that their subjects were being influenced mindlessly, without awareness or cognition. Brewer (1974) essentially argues that any observed "conditioning effect" results from subjects developing conscious hypotheses and expectations about the experiment, and then acting on them. The recent literature on conditioning of humans deals with this awareness debate (cf., Brewer 1974; Dulany 1974; Fishbein and Ajzen 1975; Gorn 1982; Hare 1964, 1965; Insko and Oakes 1966; Kiesler et al. 1969; Maltzman 1966; McSweeney and Bierley 1984; Page 1969; Petty and Cacioppo 1981; Staats 1969). Perhaps the clearest implication of this debate is that empirical researchers must invest as much creativity and effort to design procedures for detecting/preventing awareness artifacts as they do on any other crucial aspect of their conditioning experiments.

The three forms of conditioning research offered in the previous section furnish additional perspective on the issue of awareness. For example, one might suspect that conditioning of autonomic responses would be the area where the unconscious, automatic presumption of conditioning theory is least vulnerable. Conversely, as the cognitive complexity of the conditioned response increases, one might anticipate more confounding from conscious, deliberate mental processes. Indeed, there are many compelling empirical attacks on the Staatses' claim that evaluative meaning can be conditioned without awareness. Using a careful postexperimental inquiry, Page (1969) shows that subjects who demonstrated a "Staats-like conditioning effect" had become aware of what was expected of them and were trying to cooperate. Other studies (Hare 1964, 1965) document similar findings and also show that subjects who form and report erroneous perceptions about the US/CS pairings demonstrate a "conditioning effect" for these nonexistent pairings. Studies that employ masking manipulations designed to make it difficult for subjects to learn the US/CS associations show substantial (Insko and Oakes 1966) or complete (Rozelle 1968) reductions in observed conditioning effects. Insko and Oakes were forced to conclude "that demand-characteristic awareness and contingency awareness have a causal influence upon the conditioning effect" (1966, p. 494). Brewer (1974) points out that this is an especially noteworthy conclusion because these authors' obvious research bias was to try to support the Staatses' claim that conditioning occurs without awareness or cognition.

Whether genuine affective conditioning will prove less vulnerable to a demand artifact interpretation (Sawyer 1975) is an issue that one can only speculate about, given the sophistication of current research. Gorn (1982) proposes that his results demonstrate direct affect transfer and not experimental artifact. If replicated, such findings would support the unconscious, automatic process presumed by conditioning theory. Zajonc's proposition that affective and cognitive registration systems are at least partially independent (Zajonc 1980; Zajonc and Markus 1982) might be used to argue that affective conditioning should be less susceptible to cognitive confounding. Recently, others working with affective phenomena have indicated that individuals may not normally be aware of how their feeling states influence their judgment and behavior (e.g., Clark and Isen 1982; Johnson and Tversky 1983). Perhaps the strongest conclusion one should draw without further research is that the damaging artifactual evidence developed in the context of the conditioning of evaluative meaning should not be used to directly delegitimatize the conditioning of affect.

Cognition, Affect Transfer, and a Direct Link to Zajonc

The awareness issue is, of course, much more than a controversy over how to design a conditioning experiment to prevent artifacts: *the real debate is whether or not humans possess a learning mechanism that allows direct affect transfer between paired stimuli as part of an automatic, unconscious process.* This is a debate that should strike a familiar chord with consumer researchers since it can be linked explicitly to the controversial ideas of Robert Zajonc (Zajonc 1980; Zajonc and Markus 1982; Zajonc, Pietromonaco, and Bargh 1982).

Zajonc's argument has been "that an affective reaction *can* occur without the participation of cognitive processes under *some* circumstances" (Zajonc et al.

1982, p. 211, their emphasis). Accepting their argument, the question becomes how might these noncognitively mediated affective reactions become incorporated into one's preferences for tangible stimuli like products and brands. Genuine affective conditioning provides one answer. It is an answer Zajonc likely would find acceptable since he describes work dealing with the classical conditioning of irrational food aversions as a line of research supporting his basic thesis (Zajonc et al. 1982).

Another element of Zajonc's analysis that is very congenial with the affective-conditioning model is his notion that preferences are affectively based behavioral phenomena. Zajonc and Markus state (1982, p. 124):

> A preference for X over Y is a tendency of the organism to approach X more often and more vigorously than Y. Approach, in turn, which is manifested in the attainment and maintenance of proximity, is a tendency controlled mainly by affective processes.

This portrayal is identical to the way Nord and Peter (1980) describe the outcome of a successful affective-conditioning process. They suggest that the amount of affect that has been conditioned to a stimulus (e.g., a product) will influence the individual's propensity to give attention to or seek contacts with that stimulus. A common interface, then, between Zajonc and the conditioning position is this totally noncognitive conceptualization of preference.

The thrust here is not to equate affective conditioning with Zajonc's position. Zajonc seems to favor other possible answers (e.g., mere exposure) to explain how a separate affective registration system might influence preferences. However, evidence that upholds affective conditioning as an unconscious and automatic learning mechanism would certainly corroborate Zajonc's general premise about the independence of cognition and affect. This brings us to a specific examination of Gorn's (1982) affective-conditioning experiments.

THE GORN EXPERIMENTS

Gorn's (1982) piece has been and likely will continue to be cited frequently in the consumer behavior literature (e.g., Assael 1984; Hawkins et al. 1983; McSweeney and Bierley 1984; Moore and Hutchinson 1985; Ray and Batra 1983; Robertson, Zielinski, and Ward 1984; Shimp and Gresham 1983) because it addresses a major research void. Moreover, Gorn's effects appear quite robust; indeed, a recent article concerning marketing and scientific progress (Anderson 1983) offers Gorn's findings as exemplary of what empiricists must furnish more of if behaviorism is to be accepted by consumer researchers as a viable alternative to the predominant cognitive program. Certainly Gorn's work merits close inspection, and if his results are maintained in replication studies, he will have opened an important new consumer research stream.

A Summary

Gorn was motivated by the applied question of how background features in advertisements influence ad effectiveness. Since the features (e.g., attractive colors, pleasant music, humor) were all potential affect generators, he adopted the conditioning framework to structure the research. In Experiment 1, subjects viewed a slide of a blue or beige pen while they listened to a one-minute segment of pleasant or unpleasant music. They then selected one of these colors of pens as their reward for participation. Subjects who heard pleasant music were more likely to pick the color they had seen on the slide; those that listened to unpleasant music more often chose the color they had not seen. Gorn interpreted these "approach/avoidance" results as a demonstration of affective conditioning.

In a follow-up experiment, the potency of the pleasant music treatment was tested vis-à-vis a mock ad containing limited product information. Using a manipulation much like Petty et al.'s (1983) involvement variable, the personal relevance of these stimuli was varied by telling half of the subjects that they would be making a product-selection decision. Participants who were informed of the impending selection more often chose the pen color (blue) advertised with the product information; those not so informed more frequently picked the color (beige) associated with the pleasant music. These results were interpreted as an indication that affective conditioning is most appropriate for the advertiser who is targeting uninvolved customers.

Particular Strengths and Weaknesses

Perhaps the strongest element in these experiments is the pen selection measure. Demand artifacts are likely to be most troublesome in conditioning studies when it is obvious to subjects that their preferences are being gauged at the end of the experiment (Petty and Cacioppo 1981). By presenting the pens as a reward for participation, the obtrusiveness of this crucial dependent measure was minimized. Also "pen selection" is an excellent operationalization of behavioral preference, consistent with the thinking of Zajonc and Markus (1982) and Nord and Peter (1980). If pure affect can be transferred from US to CS, then Gorn's pen selection seemingly furnishes an excellent instrument for detecting the resultant affectively driven, behavioral preference.

There is, however, one feature of Gorn's procedure that furnishes a rival explanation for his results. Any time subjects are processed in large groups, and processing groups are confounded with treatments, a design is ripe for possible contamination. Such is the case in Gorn's work—especially Experiment 1. Subjects were students in two large sections (roughly 120 each) of a management course. Each section was divided in two, with half of the class taking a break while the other was processed. In such large groups, where subjects are free

to interact, it takes only a few hypothesis-guessers interacting with others to seriously contaminate the results.

It is, of course, impossible to draw any definitive conclusions concerning a demand-artifact interpretation for Gorn's results: such an interpretation is merely plausible. It merits mention that Gorn was not insensitive to artifact problems and did question subjects about why they picked a particular color of pen. However, his inquiry was neither detailed nor systematic and likely did not motivate subjects to violate Orne's (1962) "pact of ignorance."[1] The following experiment was conducted as a direct extension of Gorn's first experiment, with modifications incorporated to overcome these procedural concerns.

METHOD

Overview

The primary procedural differences between this experiment and Gorn's are (1) subjects were processed individually, (2) a more systematic postexperimental inquiry was conducted, and (3) humor was used as the affect-producing unconditioned stimulus. Beyond just an attempt to replicate Gorn's findings with a stronger design and a different form of affect generator, the incorporation of a second key dependent measure into the procedure extends the study's theoretical implications.

Subjects

Student subjects were recruited from the lobby of an eastern university's School of Management and a university cafeteria. Individuals were offered one dollar to take part in a ten-minute "advertising study," and a screening question was used to exclude the authors' students. Private rooms at each sight facilitated the single-subject processing. Past research demonstrates that males and females differ in their tastes for humor (cf., Groch 1974; Landis and Ross 1933; O'Connell 1960; Sheppard and Madden 1978); thus, only females were recruited to make working with the humorous stimuli more manageable.

Pretesting the Humor Stimuli

To parallel Gorn's treatments, it was necessary to find material that would elicit pleasant and unpleasant feelings. A diverse pool of comic material was assembled, and nine segments roughly one-minute in duration (this time length was adopted from Gorn) were selected based on a number of informal interviews with women about their humor preferences. Each of these nine segments was then rated by 33 females on a nine-item semantic differential (coefficient alpha = 0.90). Two of the pieces yielded reactions that were approximately equidistant from the neutral position in opposite directions. A segment by Bill Cosby about the contemptuous nature of cats elicited a consistently pleasant reaction, whereas a series of antiwife and mother-in-law jokes by Redd Foxx evoked negative response. The nice separation produced by these two stimuli is demonstrated in the following tabulation. Pairs of terms/phrases anchored either end of a six-point scale. In the questionnaire, the polarity of the items was mixed to avoid directional response tendencies. All scores have been recoded so that higher mean scores indicate a more negative reaction. Notice especially scores on the item "left me with a good feeling/bad feeling." Producing good feelings and/or bad feelings is, of course, a necessary part of an affective-conditioning experiment.

	Mean values	
Scale items	Pleasant/ Cosby	Unpleasant/ Foxx
Pleasant–unpleasant	1.4	4.8
Left me with a good feeling–left me with a bad feeling	1.6	4.7
Refined–vulgar	2.2	4.4
Likeable–unlikeable	1.4	5.0
Interesting–boring	1.8	4.9
Tasteful–tasteless	1.8	4.8
Entertaining–unentertaining	1.6	5.2
Artful–artless	2.2	5.0
Good–bad	1.6	5.2

Design and Procedure

As in Gorn's study, subjects listened to stimulus material designed to elicit either pleasant (Cosby) or unpleasant (Foxx) feelings while viewing one of two pens (green or black)[2] shown via a slide projector. Individuals were assigned randomly to one of the four combinations of treatment stimuli and pen color. Sixty female students participated—15 in each of the four humor-stimuli–by–pen-color cells.

Subjects were advised that they were taking part in a test of different "Styles of Humor" being considered

[1]Orne observed that "most subjects are cognizant that they are not supposed to know any more about an experiment than they have been told and that excessive knowledge will disqualify them from participating, or, in the case of a post-experimental inquiry, such knowledge will invalidate their performance" (1962, p. 780). He recommends that "inquiry procedures are required to push the subject for information without, however, providing in themselves cues as to what is expected" (p. 781).

[2]It was presumed that pen color selection would simply be a matter of verifying what Gorn established—that as pen barrel colors, blue and beige are equally preferred. However, in an initial verification attempt with 19 students, blue was preferred over beige (13 to six). Thus, the color issue was reopened, and 55 women pretested seven colors. Green and black pens were chosen for the experiment (51 percent preferred black and 49 percent preferred green in side-by-side comparisons of the actual pens).

for a kick off radio campaign for a Virginia-based pen company's new product. They were also told that they would not be listening to any actual ads for the pens. After the brief introduction, the slide projector was turned on accompanied by the comment "this is to give you an idea of what the product will be like." No product information was furnished other than the statement "the pens will write in a standard, medium blue ink." The treatment stimulus was then played, after which the tape recorder and slide projector was turned off simultaneously.

The subject then rated the comic material on the semantic differential (see the preceding tabulation) and was also asked to list what she had been thinking or feeling about the material as she listened. The thought-listing measure was included to help reveal potential suspicion about the study and to detect possible inferential belief formation that could have influenced subjects' evaluations of the pens.

When the brief questionnaire was completed, the experimenter placed a box in front of the subject and upon opening it said, "The study's sponsor has given us some samples of the new pens, and we would like to offer one to you as an additional reward for your participation—please take one." The box contained a mixture of the green and black pens; both colors were clearly visible to the subject prior to her selection. To minimize the obtrusiveness of this crucial dependent measure, the color chosen was recorded after the subject finished the study and had left the room.

When the subject chose her pen, Gorn's procedure was essentially replicated. Next, a second important dependent measure was developed that was designed to be consistent with the experimental guise and thus arouse no suspicion with subjects. After the pen selection the experimenter said, "Our sponsor would also like to get some idea of what you think a pen like this is worth—now that the pen is yours, will you sell it back to us for 25¢?" If the subject said no (and most did), the experimenter countered, "My last offer is 50¢." After this brief bit of bargaining, a "receipt card" was filled out and signed to record the amount of money received by the subject.

This "buy-back" measure furnishes an interesting contrast to pen color selection. Whereas the choice between two equally preferable colors of an identical pen is not likely to stimulate much cognitive activity, deciding whether one wants her new pen or 50¢ should evoke some thought and cognitive evaluation. Would "conditioned affect" manifest itself in a decision that engaged more active cognitive processes? Or would there be evidence to suggest an interaction between participants' feeling states (e.g., Clark and Isen 1982) and their cognitive evaluation of the pen's worth? The combination of the color selection and buy-back variables allows examination of these questions.

To finish the session, each subject was given a second questionnaire and told "we would now like to get an idea of how clearly we have explained our study to you." This questionnaire was designed to identify what the participant had become aware of, and when she had become aware of it, without asking leading questions that would make the research hypothesis obvious. Asking pointed but not leading questions in such an inquiry is a delicate proposition (Orne 1962) that has been a specific point of controversy in the conditioning literature (e.g., Petty and Cacioppo 1981; Staats 1969). The Exhibit displays the inquiry instrument. The study ended with a debriefing in which subjects were asked whether they had heard anything about the study prior to taking part (none said they had), and were requested not to discuss it with others.

A control group was also developed to establish a baseline on the buy-back measure. Twenty women were processed, one at a time, using a procedure like that of the experiment. These women were not exposed to affect-evoking material and did not view the pen slide. They instead answered several general questions about using humor in pen ads. They did select a green or black pen and were asked to sell it back using the same procedure as the experiment.

RESULTS

Pen Color Selection

The data were examined initially in a between-groups analysis like Gorn's (1982, Table 1, p. 97) and conditioning was not evidenced ($\chi^2 = 0.287$, $p < 0.50$). As shown in Table 1, two-thirds of the subjects exposed to the pleasant material picked the color they saw on the slide, and 60 percent of those who listened to the unpleasant humor did likewise. The treatments clearly did not yield the between-group differences in color selection predicted by an affective-conditioning hypothesis.

It should be noted that the magnitude of effects for the pleasant humor group is in line with Gorn's: in his Experiment 1, 78.7 percent chose the color associated with the pleasant music, but in the nondecision-making condition of his Experiment 2, this fell to 63.5 percent. Moreover, compared to the null or random choice proportion of 50 percent, the 67 percent selection rate in the pleasant humor condition is a statistically significant difference ($Z = 1.86$, $p < 0.05$). This result appears to furnish partial support for the affective-conditioning hypothesis. That is, it might be argued that conditioning occurred in the pleasant but not the unpleasant treatment. However, this interpretation hinges on the acceptability of the random choice proportion as a "control group" in this experiment. After the postexperimental inquiry results are presented, it shall be argued that random choice is not an appropriate control in this instance, and that the only unambiguous test of the affective-conditioning hypothesis is the between-group (Cosby versus Foxx) comparison.

EXHIBIT

POSTEXPERIMENTAL INQUIRY INSTRUMENT

PROCEDURE EVALUATION QUESTIONNAIRE

We are very interested in your evaluation of the clarity of the instructions given in this study. We are also interested in your honest perception of what the purpose of this study was.

1. Summarize below what you believe was the purpose of this study.
2. During the study, did you ever have the idea that its purpose might be something other than what you were told? If so, what?
3. Did you find any part of this study confusing? If so, what part?
4. Many different "psychological theories" might explain the effects we will find in this study. Which of the following "theories" would you expect might be relevant?

(Check as many as you think might be relevant.)

5%/0%	• Balance theory	30%/50%	• Information processing theory
75%/60%	• Humor preference theory	20%/10%	• Self-concept theory
50%/0%	• Consistency theory	10%/20%	• Classical conditioning
15%/30%	• Operant conditioning	5%/0%	• Dissonance theory
50%/70%	• Stimulus/Response theory	25%/0%	• I really don't know

5. In your selection of one of the two colors of pens (i.e., green vs. black), did it ever occur to you that it might be important to us which color you picked? 50%/40% yes 50%/60% no
6. Explain why you picked the color of pen you did.
7. Did it occur to you that the color of pen you selected might indicate something about your reactions to the humorous material? 15%/10% yes 85%/90% no
8. If you answered yes to question 7 above, *when* did this occur to you? (i.e., just now, *or* some time during the study—be as specific as possible in indicating *when* this occurred to you).
9. Did it occur to you that whether or not you would sell the pen back to us might indicate something about your reactions to the humorous material? 25%/30% yes 75%/70% no
10. If you answered yes to question 9 above, *when* did this occur to you? (i.e., just now, *or* some time during the study—be as specific as possible in indicating *when* this occurred to you).

NOTE: In each instance, the percentage to the left of the slash indicates what proportion of "conditioned" subjects in the Cosby treatment selected the alternative in question; the percentage to the right indicates the proportion of "nonconditioned" Cosby subjects who selected the alternative. Conditioned subjects are those 20 persons (see Table 1) whose pen color choices were in agreement with the conditioning hypothesis, while nonconditioned subjects are those ten whose choices ran counter to the conditioning hypothesis.

A follow-up analysis on the color selection variable was suggested by the manipulation check. Summed scores on the semantic differential were calculated (coefficient alpha = 0.90) and compared: the Cosby humor ($\bar{X}$ = 20.70) clearly evoked more pleasant ($p < 0.0001$) responses than the Foxx humor ($\bar{X}$ = 30.04), but subjects' reactions were not uniform in intensity. Upon examining individuals' scores, four problem subjects were identified in the Cosby treatment and five in the Foxx. These subjects' scores indicated that they had not responded as anticipated to their respective treatment manipulations. While recognizing that post hoc deletion of cases degrades an experiment to a strictly correlational study, we pursued the analysis, again following Gorn's example. The nine problem cases (15 percent of the sample) were deleted (Gorn dropped 20 percent), and the color selection variable was reanalyzed. Again, there was no difference in selection pattern between groups. As Table 2 shows, the percentage of women who chose the color they saw on the slide did not change upon reanalysis in the Foxx group; in the pleasant humor condition it rose negligibly to 69.2 percent.

The Buy-Back Measure

While the conditioning hypothesis received, at best, mixed support on pen color selection, the effect of the treatments on the buy-back variable proved more interesting. Would subjects' feeling states influence their propensity to keep the pen when the experimenter tried to purchase it? This issue was examined by comparing the percent who sold their pens at either the 25¢ or 50¢ inducement level in the Cosby, Foxx, and control groups: 6.67 percent (two of 30) of the Cosby, 26.67 percent (eight of 30) of the Foxx, and 15.0 percent (three of 20) of the control group sold their pens. The difference between the pleasant and unpleasant humor groups is significant statistically ($Z = 2.08$, $p < 0.05$); the comparisons involving each of the treatments versus the control proved nonsignificant.

TABLE 1

ANALYSIS OF SUBJECTS' PEN COLOR CHOICES: PLEASANT VERSUS UNPLEASANT HUMOR

	Color subject saw on slide					
	Cosby (Pleasant)[a]			Foxx (Unpleasant)[b]		
Color chosen	Green	Black	Total	Green	Black	Total
Green	10	5	15	7	4	11
Black	5	10	15	8	11	19
Total	15	15	30	15	15	30

[a] $\chi^2 = 3.33$ ($p < 0.068$), phi = 0.33.
[b] $\chi^2 = 1.29$ ($p > 0.256$).

TABLE 2

ANALYSIS OF SUBJECTS' PEN COLOR CHOICES WITH CASES DELETED BASED ON SEMANTIC DIFFERENTIAL MANIPULATION CHECK

	Color subject saw on slide					
	Cosby (Pleasant)[a]			Foxx (Unpleasant)[b]		
Color chosen	Green	Black	Total	Green	Black	Total
Green	10	4	14	6	4	10
Black	4	8	12	6	9	15
Total	14	12	26	12	13	25

[a] $\chi^2 = 3.77$ ($p < 0.052$), phi = 0.38.
[b] $\chi^2 = 0.96$ ($p > 0.327$).

More variance on the buy-back measure would have allowed greater opportunity to dissect these results to seek additional empirical insights. However if conditioning were operating in this experiment, one might expect to see at least a pattern in the data that suggests a relationship between the pen color selected by a subject and her propensity to sell it back. That is, within the pleasant humor group, those who picked the color they saw (consistent with a conditioning prediction) should have been more resistant to the buy-back attempt than those picking the color they did not see. Yet both subjects who sold their pens in this treatment group had also chosen the color on the slide. Within the unpleasant humor group, those who did not select the color they were shown (congruent with the conditioning prediction) should have been more yielding to the buy-back request than their counterparts. However, these sell-back proportions are virtually identical—25 percent (three of 12) versus 27.78 percent (five of 18). These simple frequencies show nothing that suggests even the weakest of relationships between the color-selection and buy-back variables.

The humor treatments did yield differences in participants' willingness to sell the pens. Although from a conditioning perspective this result may seem inconsistent with the color selection findings, recall the earlier argument about the potential differences in cognitive activity that the two measures were likely to evoke. If the buy back stimulated more active cognitive processes, and the feeling states created by the humor in some way biased the nature of this cognitive activity, then one would expect subjects in the pleasant/unpleasant treatments to arrive at different evaluations of the pens. The importance of this "mood" interpretation (e.g., Clark and Isen 1982; Isen et al. 1978) as it relates to this study specifically and the conditioning literature generally will be developed in more detail in the discussion section.

Thought Listings and the Postexperimental Inquiry

A thought-listing measure was taken to help detect suspicion and/or inferential belief formation that might have influenced individuals' judgments about the pens. No problems were detected. A few persons expressed curiosity about how the humor would actually be integrated into an advertisement, but overall, their listed thoughts simply reflected reactions to the humor.

The postexperimental inquiry instrument was designed to more specifically identify plausible alternative explanations for any observed results. The first three open-ended questions (see the Exhibit) drew only limited responses that indicated no artifact problems. Almost without exception, participants perceived the purpose as an advertiser's attempt to identify a style of humor with broad-based consumer appeal. Questions four through 10 are more directed, and since it was in the pleasant humor treatment that the affective-conditioning hypothesis was afforded support (i.e., based on the comparison with the null of random choice), responses from this group were examined closely for indications of artifact. Responses of the 20 subjects (see Table 1) who appeared "conditioned" were contrasted with those of the 10 "unconditioned" subjects. Percentage results for these two subgroups are shown in the Exhibit.

Answers to question four indicate that considerable guessing was involved in participants' selections of the relevant "psychological theories." This came as no surprise since it was not expected that subjects would be truly sophisticated enough to "correctly" answer this question; rather, this question was included because it fit nicely with the experimental guise and thus provided another unobtrusive means for detecting peculiarities in subjects' responses. With one notable exception, there are not large differences in the patterns of responses between subgroups. This important difference is on consistency theory: half of the "conditioned" women checked consistency theory whereas no one in the "unconditioned" subgroup checked it. Recall that a conditioned subject in this pleasant humor treatment is simply one who picks the same color that she saw on the screen. If just a few of the women who checked consistency theory also deliberately selected the color that matched what they had seen, this would have

caused the significant effect found in the Cosby treatment. Two of the women who chose the same color they had seen on the slide wrote on question six that their choices were influenced by the color they were shown. It will be argued in the discussion section that this apparent artifact also leads one to reject a 50 percent selection rate as a valid "control group" for assessing the conditioning hypothesis in this experiment.

However, very few subjects perceived any specific connection between the humorous material and the color selection decision. While nearly half reported on question five that they thought the color choice might be important, no sensitivity to the conditioning hypothesis was evident in responses to question six. More importantly, question seven showed very low awareness levels on the color selection/humor linkage and question eight revealed that only two subjects may have been sensitive to the humor/pen color link (i.e., the US/CS linkage) at the time of the pen selection.

Reported awareness levels of an association between the humor and the buy-back variable are also very low. Question 10 identified three "conditioned" and two "unconditioned" subjects as potentially aware—before they were asked the question—that selling the pen "might indicate something." None of them actually gave any indication that they knew what the "something" might be. In the unpleasant humor group, just four women checked yes on question nine, and only one of these indicated on question 10 that the humor/buy-back linkage was something that had occurred to her during the study. In general, the postexperimental inquiry provided little indication that participants recognized the hypothesized relationship between the affective valence of the humorous material and their pen choices.

DISCUSSION

Pen Color Selection—Contradicting Gorn?

The postexperimental inquiry did not yield a strong indication of either contingency or demand awareness—problems that have been a common source of concern in conditioning studies (Brewer 1974; Fishbein and Ajzen 1975; Page 1969; Petty and Cacioppo 1981). Nonetheless, the postexperimental inquiry does indicate a noteworthy artifact: it appears that when faced with what was essentially a trivial decision (i.e., choose green or black), a few subjects consciously decided to select the color they had seen on the screen. They apparently perceived this as a consistent response to what was otherwise a choice devoid of consequence. Of course, as soon as any sort of cognitive rationale, no matter how trivial, can be offered as a causal explanation for participants' behaviors, one has moved out of the conditioning model's traditional domain.[3] Moreover, such an artifact alters the natural or baseline response level for the color selection variable. Exposure to one color on the slide inflates the baseline probability that subjects will select that color. It follows, then, that a null or random choice proportion of 50 percent is not a valid control comparison because in this design, the natural or baseline probability for subjects selecting the color shown in the slide is in excess of fifty percent.

The only comparison that can be unambiguously interpreted as a test of the affective-conditioning hypothesis is the between-group comparison. Treatments that produced differences in affective response did not yield correspondent differences in color selection. This finding contradicts Gorn's and raises a concern about the generalizability of his results. However, since the two studies were not identical, there is a limit on how strong an inference one should draw for one from the other.

The most fundamental difference between the studies was the use of humor instead of music as the unconditioned stimulus. It is possible that humor and music work differently when incorporated into the conditioning paradigm—this would explain the divergent results in the two projects. Our position is that in an affective-conditioning experiment, the US must alter subjects' affective or feeling states. Accepting feeling state as the core construct, there are a variety of ways to manipulate it, including both humor and music. We suggest that this study and Gorn's study featured manipulations of the same core construct, and thus are quite comparable. However, given the limited evidence currently available on the use of affect generators as unconditioned stimuli in the conditioning paradigm, one can not have a great deal of confidence in any position in this area. Additional research will be needed to furnish a definitive answer on whether or not the affective-conditioning hypothesis must be adapted, depending on the form of affect generator employed.

The experimental psychologist likely would point out that the most economical explanation for the lack of effects in a study like this one is weak conditioning procedure. For example, it could be argued that repeated CS/US pairings are typically necessary to produce conditioning (e.g., McSweeney and Bierley 1984) or that familiarity with the US decreased the likelihood of conditioning (e.g., McSweeney and Bierley 1984). Although

[3]In his study Gorn showed concern about the confounding influence of mere exposure. The observed propensity of our subjects to select what they had seen might be viewed as corroborating Zajonc's mere exposure hypothesis. However, such an interpretation requires a rather strained assumption about the study's focal stimuli. As a number of authors have observed recently, the mere exposure explanation is primarily applicable with novel, unfamiliar stimuli like abstract geometric shapes and Turkish words (cf., Belch 1982; Mandler 1982; Petty and Cacioppo 1981). To argue mere exposure here requires the presumption that, when faced with choosing from a box of identical pens, subjects more often picked the color they just recently had learned to like as a result of their "mere exposure" to it in the slide. This raises the question of whether it is appropriate to consider green and black as novel, unfamiliar stimuli that are thus highly susceptible to mere exposure effects. We think not and reject mere exposure; however, if one were to advocate this explanation for our data, it is important to recognize that one has again ruled out affective conditioning.

not all conditioning principles emanating from the laboratories of experimental psychologists will necessarily translate directly to an affective-conditioning experiment like this one, the weak procedure argument certainly merits attention. Of course, the primary motivation in designing this study was to improve upon, but essentially replicate, the procedural details of Gorn's experiment. Indeed, adopting the perspective of the experimental psychologist, it becomes difficult to explain the results of this study with the weak procedure argument and at the same time accommodate Gorn's rather robust results. There are clearly questions here that can only be resolved with additional empirical work.

Feeling State Influences and the Buy-Back Measure

The affect manipulation did influence the buy-back variable. The challenge in interpreting this finding is to provide a framework that can simultaneously accommodate the absence of treatment impact on color selection with the between-group difference observed on buy back. As mentioned previously, one way to reconcile these results lies in the potential diversity of subjects' cognitive activity underlying these two decisions. The buy back likely forced subjects to evaluate the pens, whereas the choice between two presumably neutral colors called for little or no cognitive investment. Moreover, the buy-back variable would have allowed subjects to manifest their feeling states in a predictable manner. Even if one argues that color selection demanded substantive cognitive effort, predicting how different feeling states might influence relative color preference is problematic. But an explanation of how the divergent valence of participants' feeling states might have been manifested in their overall evaluations of the pens is straightforward. Results on the buy back indicate that the feeling states created by the humor biased the pattern of participants' evaluative thinking: those in the pleasant humor condition were more likely to generate positive thoughts about the pens and thus were more resistant to the buy-back attempt relative to persons exposed to the unpleasant material. Without a direct measure of thought processes it is, of course, impossible to furnish unequivocal evidence for this explanation. However, confidence in the interpretation is enhanced when it is considered in the context of both recent developments in the mood literature and prior empirical findings in affective-conditioning studies.

Two important research streams have recently arrived at quite similar positions on the influence of feeling or mood states on judgments and thinking (cf., Bower 1981; Bower and Cohen 1982; Clark and Isen 1982; Isen 1984; Isen et al. 1978). These authors propose that an affective state can serve as a retrieval cue that primes or makes available certain memories, concepts, inference rules, or perceptual categories. Affective states thus influence individuals' judgments and behaviors indirectly by prompting their cognitive activity and, in effect, biasing its valence. The impact of feeling states has been demonstrated in settings ranging from how people evaluate themselves and their friends to how they rate the performance of their appliances and automobiles on consumer surveys (e.g., Bower and Cohen 1982; Clark and Isen 1982). The evidence indicates that feeling states are likely to be especially influential in the context of snap judgments about relatively ambiguous stimuli (e.g., scenes from the Thematic Apperception Test) and in evaluations of stimuli for which a person has stored numerous but heterogeneous impressions (e.g., familiar people). The buy-back measure provoked evalution of a relatively ambiguous stimulus (i.e., the pen); the finding that subjects proved more or less favorably predisposed towards the pens, depending on their affective state, fits nicely with the evolving mood literature. If subjects had access to a more extensive set of both positive and negative information about the pens, one might expect an even more robust mood effect on the buy-back variable.

Feeling State Effects in the Affective-Conditioning Literature

Results on the buy-back variable are also consistent with a set of experiments that have a conceptual heritage firmly grounded in the conditioning literature. The work of Razran (1938, 1940) is commonly cited (e.g., Petty and Cacioppo 1981; Staats 1969) as furnishing clear support for the classical conditioning model; moreover, Insko and Oakes (1966) concluded that Razran's approach is an exemplary experimental paradigm for investigating genuine affective conditioning. However, the paucity of detail furnished in the Razran (1938, 1940) write-ups makes it impossible to seriously assess the work. Fortunately, a set of experiments (Dabbs and Janis 1965; Janis et al. 1965) conducted to replicate and extend Razran's research are detailed enough to evaluate the level of support this paradigm provides for the affective-conditioning hypothesis.

Janis and his colleagues made use of affect-evoking manipulations modeled after Razran's and attempted to gauge this "extraneous affect's" influence on receptivity to persuasive communications. The conditioning prediction is that pleasant (or unpleasant) feelings should transfer to the ideas expressed in such communications and thus enhance (or retard) acceptance. For example, Razran (1940) concluded that he was able to influence subjects' approval of a variety of political slogans via an affective-conditioning process. In the Janis et al. (1965) study, the overall pattern of findings produced only mixed support for conditioning, with pleasant (but not unpleasant) affect influencing subjects' evaluations of the focal stimuli. They surmised that the data implicated a process more cognitively complex than conditioning. However, since they did not have

an explicit theoretical alternative to turn to, they could only point out the need for new lines of research that test more complicated explanations.

In a follow-up piece, Dabbs and Janis (1965) furnish additional insight about a "more complicated explanation" that makes a direct linkage between Razran's early conditioning experiments and the modern-day mood literature. They used a treatment that varied the nature of the information made available to subjects, along with an affect manipulation. They observed an interaction between the two treatments indicating that participants' thought processes were apparently influenced by their affective states. Dabbs and Janis dismissed Razran's conditioning account for the influence of extraneous affect, and inferred that a pleasant feeling state "induces a momentary mood of compliance" (1965, p. 144) that influences the individual's thoughts and judgments.

Building on the Dabbs and Janis piece, our study indicates that when investigating the impact of feeling states, one should anticipate becoming entangled in a basic theoretical competition between the affective-conditioning and mood positions. Indeed, many research streams contain an implicit confrontation between these two positions. Consumer researchers are likely to find studies dealing with the effect of "extraneous affect" in persuasive communications of special interest (cf., Biggers and Pryor 1982; Dabbs and Janis 1965; Dribben and Brabender 1979; Galizio and Hendrick 1972; Janis et al. 1965). This implicit confrontation also pervades other notable research streams in areas like environmental psychology (e.g., Griffitt 1970; Mehrabian and Russell 1974) and interpersonal attraction (e.g., Bleda et al. 1973; Gouaux 1971). However, since it is rare to see the two positions explicitly recognized, experiments are seldom designed to place them in direct competition. Thus, past research supplies a great deal of data in which the two explanations are inextricably confounded.

Summary

In interpreting the results of this study, we have argued that affect manifested itself in a fashion that supports the mood position of Bower and Isen and questions the affective-conditioning mechanism advanced by Razran, Gorn, and others. Certainly we recognize that this is but one small study and thus have no desire to portray our argument as definitive or conclusive. Rather, our intent might better be described as one of illuminating an important interface between two quite diverse theoretical positions. Hopefully, the principal contribution of this article is to suggest an important research direction for consumer researchers. The concluding section will develop a number of additional ideas about researching the affective-conditioning hypothesis and building a research stream around the theoretical competition identified herein.

CONCLUSIONS: SPECIFYING A RESEARCH AGENDA

If consumer researchers are to continue to draw on the classical conditioning model as an explanatory framework, more evidence concerning its fundamental viability in the consumption domain seems desirable. The affective-conditioning hypothesis merits special attention. Research dealing with this hypothesis is clearly germane to the ongoing debate about the roles of affect versus cognition in the development of preference. Recently, an experimental psychologist's interpretation of the relevance of classical conditioning mechanisms for the study of consumer behavior has been explicated (McSweeney and Bierley 1984). The McSweeney and Bierley article is an important one because it raises numerous empirical questions for consumer researchers. However, before discussing our own proposal for a research agenda, some important caveats about the research tradition of the experimental psychologist demand highlighting.

The experimental psychologist's approach is largely atheoretical—there is no construct explication, and explanation is, at best, a secondary concern; thus, a priori predictions about whether a new CS/US pairing will yield conditioning appear nearly impossible (McSweeney and Bierley 1984). Only after extensive pretesting will one be able to make a conditioning prediction. Of course, the problem with this empirically driven approach is that one can never put oneself in an experimental position to truly reject a conditioning hypothesis. An absence of effects can always be a function of weak procedures and not enough pretesting. If one is concerned with the fundamental viability of classical conditioning mechanisms in the domain of human consumption behaviors, adopting a research tradition that in essence prohibits falsification seems quite problematic.

An experimental psychology view of the awareness controversy—a major issue of concern in conditioning research with human subjects—is also somewhat partisan (McSweeney and Bierley 1984). If one limits one's conception of the awareness issue to simply whether or not subjects come to recognize which CS and US have been paired (i.e., contingency awareness), then awareness can be treated as an epiphenomenon in the conditioning experiment with no deleterious implications for a conditioning hypothesis (cf., Kiesler et al. 1969; McSweeney and Bierley 1984; Petty and Cacioppo 1981; Staats 1969). However, when one's focus is to build or alter consumers' preferences with conditioning mechanisms, the awareness issue involves more than this concern about simple contingency awareness: the awareness issue in the consumer behavior context is also an issue of demand artifact (cf., Brewer 1974; Fishbein and Ajzen 1975; Page 1969; Petty and Cacioppo 1981). Given the heavy reliance on the animal laboratory in the empirical research tradition of the exper-

imental psychologist, it is easy to understand a lack of sensitivity for demand artifact problems. McSweeney and Bierley (1984) conclude that attention to the awareness issue may prove detrimental to the development of a research stream. Given the central concern for demand artifacts (e.g., Sawyer 1975) now prevailing in the consumer research tradition, it is hard to imagine that consumer researchers will be comfortable with this position. Indeed, it is hard to imagine the awareness issue ever being something consumer researchers would choose to ignore.

Testing the Affective-Conditioning Hypothesis

A stream of research is needed where the specific objective is to support or falsify the affective-conditioning hypothesis in the consumption domain. Of course, this will require consensus on what this hypothesis involves, and while our use of the affective-conditioning terminology is not novel (e.g., Greenwald and Leavitt 1984), typically one does not find a precise explication of this hypothesis. Some explication seems desirable as a starting point for future researchers.

Central to any test of the affective-conditioning hypothesis is the US that can produce a change in feeling state as the UR. As mentioned previously, we perceive feeling state as the core construct in this hypothesis. Moreover, since feeling state itself can be an ambiguous notion, we advocate the precise meaning given the construct by the research program of Isen and her colleagues (Clark and Isen 1982; Isen 1984; Isen et al. 1978). Here the term *feeling state* refers to subtle, diffuse affective experiences that are explicitly distinguished from more high intensity and cognitively differentiated emotions. These states can be thought of in very Zajonc-like terms as simply "feelings of pleasantness and unpleasantness (that) are basic perceptual reactions and are not dependent upon the interpretation or meaning of events" (Leventhal 1974, p. 46). This conception fits nicely at Greenwald and Leavitt's (1984) second level of audience involvement in advertising, where they propose that affective-conditioning mechanisms are operative. Furthermore, this particular conceptualization seems well-suited to the domain of consumer research because these low intensity affective states are likely to be a very common component of individuals' responses to advertising in naturalistic environments (e.g., Lutz 1985).

The affective-conditioning hypothesis then proposes a direct or noncognitively mediated transfer of pleasant (or unpleasant) feelings from the US (i.e., the advertisement) to the CS (i.e., the brand). We strongly agree with Fishbein and Ajzen's (1975) and Brewer's (1974) perspective that once one allows the possibility of causal cognitive explanations for a so-called conditioning effect (e.g., McSweeney and Bierley 1984), one really has abandoned the traditional classical conditioning model. Yet it does not automatically follow how one would expect transferred affect to manifest itself with regard to the CS; indeed, the choice of dependent measures is extremely important in testing an affective-conditioning hypothesis. As discussed previously, Zajonc and Markus's (1982) notion of behavioral preference is a compelling one for thinking about how conditioning effects might manifest. This noncognitive, approach/avoidance sort of conceptualization also seems very compatible with the sign-tracking phenomenon McSweeney and Bierley describe. They conclude that "most people concede that approach and contact responses may occur when classical conditioning procedures are used" (1984, p. 621). We suggest that affective-conditioning effects may largely appear as simple behavioral manifestations such as picking a product off the shelf to examine it, or perhaps trying a new brand. It does not necessarily follow that affective-conditioning effects will appear in cognitively constructed evaluative judgments about the brand. Consequently, consumer researchers' traditional heavy reliance on pencil-and-paper attitude scales as dependent measures should be supplemented with other measurement approaches to test the affective-conditioning hypothesis.

Consumer researchers might look to the experimental literature on attitudinal conditioning for ideas to further examine the affective-conditioning hypothesis. The major paradigm available involves testing against a null hypothesis with a postexperimental inquiry to detect demand artifacts. However, it should be recognized that this research orientation has not yielded strong inference: evidence generated has often become muddled by the debate (e.g., Page 1969; Staats 1969) over whose postexperimental inquiry probed deeply enough to truly detect demand artifact. Platt (1964) argues persuasively that strong inference comes from research designs that can potentially support one experimental hypothesis and at the same time reject one or more competing hypotheses. Interestingly, in his reaction to Brewer's (1974) critique of conditioning studies, Dulany (1974) brings Platt's argument specifically to bear on the conditioning literature; Dulany's central point is that until one has a theoretical network to generate hypotheses that confront explicitly the classical conditioning model, empirical tests will continue to furnish only equivocal inferences about the actual viability of the model.

The Prospect of a Theoretical Competition

We recommend a research stream that is congenial with the viewpoints of Platt (1964) and Dulany (1974): this would entail designing experiments that place the affective-conditioning and mood positions in explicit competition. The mood position holds that feelings do not transfer automatically and directly between stimuli, but rather influence judgments and behavior by prompting and biasing cognitive activity (e.g., Bower and Cohen 1982; Clark and Isen 1982). The study presented herein furnishes one model for such research:

the key elements involve the development of experimental treatments that can alter individuals' feeling states, and the subsequent assessment of the impact of this "extraneous affect" on two fundamentally different types of dependent measures. The first type should be an unobtrusive measure of essentially an approach/avoidance behavior. As argued previously, Gorn's color selection measure is a good one here. Another excellent candidate is an amount-consumed variable like that used in the experiments of Tybout, Sternthal, and Calder (1983). The second class of dependent measure should force cognitive activity and evaluation. While any number of pencil-and-paper evaluative scales might serve this purpose, such measures are likely to have greater vulnerability to artifact problems than a more unobtrusive approach exemplified by this study's buyback variable. A pattern of findings establishing an impact of affect manipulations on the second form of measurement, and not on the first, supports the mood position at the expense of the affective-conditioning hypothesis.

A natural and important extension of this experimental paradigm would investigate the influence of repetition. Repetition is typically treated as a means for strengthening conditioning effects (e.g., McSweeney and Bierley 1984); conversely, there is nothing in the mood literature to suggest that a series of affective experiences, distributed over time, should intensify the influence of feeling states on judgments and behavior. Thus, one could employ treatments that manipulate the number of feeling experiences, perhaps over multiple experimental sessions, and again gauge effects using the two classes of measures described earlier. Results that show an effect of the repetitions factor on the first measure form would uphold conditioning, and an equivalent repetitions effect on both measures would support conditioning at the expense of the mood interpretation.

Another important extension of the current study is suggested by the work of Dabbs and Janis (1965). Recall that they used an affect manipulation along with a treatment that varied the nature of the information subjects received about the focal stimulus. Their major finding was an interaction between the two treatments: subjects' moods influenced whether they incorporated the information they received into their evaluations. This finding, as well as the discussion of Clark and Isen (1982), indicates that mood effects should vary as the information potentially available to the individual varies. That is, if subjects are placed in a positive (or negative) mood, the more positive (or negative) pieces of information they potentially have available, the more positive (or negative) their final evaluations should be. Thus, experiments could be designed to include both affective and informational treatments using evaluatively oriented dependent measures. Interaction effects that overwhelmed main effects for feeling states would again supply corroboration for the mood position at the expense of the affective-conditioning hypothesis.

The prospect of the proposed theoretical competition is an intriguing one because, in effect, it pits fundamentally diverse research traditions against one another. A decade ago Dulany (1974) expressed pessimism about the possibility of designing experiments to place theories from the behaviorism and cognitive psychology research traditions in empirical competition. However, he had no way to anticipate recent theoretical developments in the mood literature that have incorporated feeling states into theoretical systems, like the semantic network/spreading activation models of memory that are currently popular among cognitive psychologists (cf., Bower 1981; Bower and Cohen 1982; Clark and Isen 1982). Although it may be overly ambitious to portray the proposed research agenda as a competition between divergent research traditions, it is a stream of research that should enhance understanding of affect's role in the generation of preference, and at the same time provide new evidence about the basic viability of the affective-conditioning hypothesis in the consumption context.

[*Received July 1984. Revised June 1985.*]

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