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A Clarification and Extension of Operant Conditioning Principles in Marketing

Operant conditioning as presented by Skinner and in a behavior modification perspective is clarified and extended by comparison with behavioral learning theory, which is found to be a misinterpretation of operant conditioning and which offers recommendations for marketing practice that are unsupported by operant principles or the BMP. Consideration of these issues leads to several extensions of operant conditioning and the BMP in marketing.

In a previous article in this journal, we offered a behavior modification perspective (BMP) on marketing (Nord and Peter 1980). This perspective is an entirely different view of the nature of marketing and consumer behavior than the cognitive view that currently dominates the academic marketing literature. Basically, the BMP views the role of marketing as influencing, modifying and controlling consumer behavior in order to achieve organizational objectives. It views consumer behavior as being controlled by the environment rather than by inferred, internal psychological processes such as needs, awareness, knowledge, attitudes, etc. In short, the BMP views marketing as a technology that seeks more effective solutions to practical problems rather than as a science that seeks better theories and explanations of internal events (O'Shaughnessy and Ryan 1979).

We argued that the BMP was a parsimonious and

useful approach for developing effective marketing strategies and tactics and that it could stimulate a closer interchange between academics and practitioners. We also argued that the BMP had significant implications for the validity of current and future consumer behavior research and that consumer behavior is far more consistent with the principles embodied in the BMP than with traditional cognitive explanations.

Recently, Rothschild and Gaidis (1981) sought to "examine one aspect of behaviorism (and the Nord and Peter paper) in greater depth" (p. 70), under the general rubric of behavioral learning theory. Although *behavioral learning theory* is not defined in their work, it is presented as a synonym for operant conditioning (p. 70), and their key references (Nord and Peter 1980, Skinner 1953) and key topics (shaping, reinforcement schedules, etc.) are all from the operant tradition. Apparently they were attempting to extend our discussion of operant conditioning principles in marketing.

This paper clarifies and extends operant conditioning principles and the BMP in marketing. Clarification is accomplished by explaining key differences between operant conditioning as presented by Skinner (1953) and Nord and Peter (1980), and the Rothschild

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and Gaidis account.¹ By examining these differences, new insights are found for extending operant conditioning and the BMP in marketing.

It should be noted that we are not arguing that marketing tactics derived from the BMP will necessarily be more effective than tactics derived from behavioral learning theory. We are arguing that operant conditioning terms have precise, well-established meanings in the behavior modification literature. These terms stem from a paradigm that has developed in order to predict and control behavior without invoking internal explanations. Behavioral learning theory takes some of these terms out of this context and attempts to use them under the guidance of a paradigm that focuses primarily on internal correlates of behavior. In changing this context, the developers of behavioral learning theory have unwittingly misused operant terms. This misuse results in recommendations for marketing practice that are unsupported by operant conditioning principles.

This clarification and extension is important for two reasons. First, the controversy over operant conditioning that has raged in psychology over the last several decades has often been the result of misinterpretation of operant conditioning by more cognitively-oriented scholars. We hope to avoid this controversy in marketing, and it is clearly beneficial for operant concepts to be carefully delineated and fully understood before they are empirically researched or formally applied in practice.

Second, one of the basic advantages of operant conditioning and the BMP is that they do not require inferred, internal psychological constructs in order to develop marketing strategies and tactics and to predict and control consumer behavior. The addition of such constructs in the Rothschild and Gaidis account voids this advantage and leads marketing researchers away from the study of overt behavior and back to research designs requiring strong and often unwarranted inferences about the nature of unobservable internal events. Operant conditioning and other elements of the BMP can be researched fruitfully and applied successfully to marketing problems before answers to theoretical questions about internal psychology are found and even before the appropriate theoretical questions are asked. The addition of internal constructs in the Rothschild and Gaidis account unnecessarily complicates operant conditioning, reduces its pragmatic emphasis and inappropriately gives it the appearance of an approach consistent with the marketing concept. Although integrating cognitive and behavioral approaches can be useful (Bandura 1977, 1978; Fedor

and Ferris 1981; Staats 1981), such attempts are of little value if the basic concepts and premises are not stated accurately and in a manner consistent with the parent perspectives.

The misinterpretation of operant conditioning and its terms and the addition of inferred, internal psychological processes have important implications not only for clarifying but also for extending the use of operant conditioning in marketing. These implications can be better understood by considering the following topics:

- The relationships between operant conditioning and stimulus-response models
- The relationships between operant conditioning and the marketing concept
- Shaping
- Continuous and intermittent schedules of reinforcement
- Immediate and delayed reinforcement
- Primary and secondary reinforcers
- Low and high involvement purchases

The Relationships Between Operant Conditioning and Stimulus-Response Models

As we point out in our original paper, leading psychologists consider Skinner's operant conditioning separately from their treatments of S-R theory. Strictly speaking, operant conditioning is not an S-R model. It is a response-reinforcement model that focuses on changing the probabilities and/or frequencies of behavior by manipulating stimuli that appear *after* a response has occurred. Whereas most S-R approaches are concerned with providing a theory that indicates which stimuli should be selected and presented to bring about a particular response, operant conditioning is not concerned with such theory. Although discriminative stimuli that are presented *prior* to the response are sometimes employed, the operant conditioner accounts for changes in the probability of behavior by referring to the differential reinforcement of responses in the presence of particular stimuli. Thus, the key process in the operant model remains the arrangement of consequences that follow responses.

Although operant conditioning is not an S-R model, integrating the two perspectives may be useful. For example, to the degree that the S-R approach focuses on stimuli that occur before a response, it can be useful in helping to specify the conditions and processes that determine the operation of discriminative stimuli. However, the possible complementarity should not be mistaken for identity.

¹We limit the discussion to operant conditioning since Rothschild and Gaidis did not deal at length with other elements of the BMP.

Furthermore, operant conditioning is concerned with overt behavior and not with any internal process such as learning. Learning is an inference and as such, operant conditioners view it as unnecessary for the prediction, control or scientific account of behavior. In other words, operant conditioning is not a learning theory. Thus, to the degree that behavioral learning theory employs concepts such as learning and uses S-R models to discuss promotion and marketing, it is dealing with processes that are different than those taken to be problematic by operant conditioning and the BMP.

The Relationships Between Operant Conditioning and the Marketing Concept

Rothschild and Gaidis argue that behavioral learning theory and the marketing concept are very similar to each other. For example, they state:

This paradigm (behavioral learning theory), is not new to marketers; the marketing concept is an example of its principles . . . (p. 70).

Appropriate long-run behavior only takes place when the reinforcer meets some need. A reinforcer can't be positive if it does not meet needs (p. 77).

In marketing, the desired end is appropriate behavior manipulation and control to further the goals of the organization. The currently recognized most efficient means to these ends is through the use of the marketing concept. By developing reinforcers which meet needs, marketing would seem to have already embraced behavioral learning theory (p. 77).

Operant conditioning is not concerned with satisfying needs in the sense in which the term *needs* is used in discussions of the marketing concept, i.e., as an internal event. Skinner argues that needs are generally only inferred from behavior and that "so long as the inner event is inferred, it is in no sense an explanation of the behavior and adds nothing to a functional analysis. . . . A need could simply be redefined as a condition, resulting from deprivation and characterized by a special probability of response" (pp. 143-4). Skinner and other writers (Bindra 1959) view needs at best as epiphenomena, i.e., secondary phenomena accompanying and caused by others.

To the extent that Rothschild and Gaidis put needs at the center of their analysis and link their analysis to Skinner and the operant tradition, they are confusing two opposing views. Their linkage of the operant view to the marketing concept is equally inappropriate since need satisfaction is not part of either operant conditioning or the BMP. The BMP views sales and profits as goals of marketing that can be pursued effectively without any appeal to the concepts of need and need satisfaction. The recent work by Lawton and Parasuraman (1980) which found that consumer needs have little impact on new product planning suggests

that *marketing activity proceeds quite well without considering consumer needs*. Moreover, Salancik and Pfeffer (1977, p. 441) have asserted that "the concept of needs may be potentially misleading and unnecessary for the development of theories of human behavior." To the degree that Salancik and Pfeffer are correct, the traditional marketing concept not only diverges from the operant model but also may hinder the prediction, control and scientific account of behaviors of interest to marketing. Although in some cases the same tactics may be derived from either an operant conditioning or need satisfaction approach to marketing, this does not obviate the issue that the two models are conceptually distinct and represent opposing views for analyzing behavior.

Shaping

In general, shaping involves a process of arranging conditions that change the probabilities of certain behaviors, *not as ends in themselves* but to increase the probabilities of *other* behaviors (Nord and Peter 1980, p. 39). Shaping deals with a sequence of different responses, not the recurrence of the same response, and is usually accomplished by positively reinforcing successive approximations of the desired behavior or of other behaviors that must be performed before the desired behavior can be emitted.

The example that Rothschild and Gaidis give to demonstrate shaping is not shaping. In their example a free sample is distributed with a large discount coupon enclosed. If purchase occurs, the consumer now receives a smaller discount coupon for the next purchase. No coupon is offered for the third purchase and it is assumed/hoped that continued repeat purchase will now be maintained. In all cases after the first purchase, no new behavior is being developed.² Once the purchase has been made, the smaller discount coupon is an effort to *sustain* the behavior, not develop it. Even the use of a free sample is somewhat different than shaping because it is not clear what the free sample is contingent upon. If it were contingent upon a visit to a display or point of future purchase, it would be shaping. If it just appeared in the mail, it would not reinforce a response that would be part of the normal purchase chain. Rothschild and Gaidis' multistep process of using discount coupons is an example of changing contingencies for maintaining a response

The terminal behavior in this example is purchase of the product. Once a purchase is made, with or without a coupon, the terminal behavior has been emitted. Since shaping deals only with the *development* of the terminal behavior, subsequent purchases are not shaped. Although the price of the product has been changed, this is a change in contingencies, not a change in behavior from an operant conditioning perspective.

and may be a very effective tactic, but it is not shaping.

Rothschild and Gaidis also argue that there may be a tendency to overuse promotional tools in selling products. They suggest that "In a marketing situation, it is paramount that reinforcement for purchase be derived primarily from the product, lest purchase become contingent upon a never ending succession of consumer deals" (p. 72). However, the BMP suggests that a good product is only one of many ways to increase the probability of repeat purchase behavior. If a never ending succession of consumer deals generates long run profits, it is an effective and useful strategy (even by selling a poor product). Thus, it is clear that behavioral learning theory not only misuses the concept of shaping but also differs from the BMP in its recommendations for designing marketing strategies.

Continuous and Intermittent Schedules of Reinforcement

The possible use of intermittent schedules in marketing is an important issue. It is known from research in other areas that intermittent schedules can be very powerful in developing high rates of behavior resistant to extinction. Intermittent schedules are also more economical since they lower the cost of providing reinforcers. Rothschild and Gaidis assert that intermittent schedules "have limited value for marketing" (p. 72), based on their belief that product performance is the only reinforcer of concern to marketing, and intermittent reinforcement ". . . may be seen as punishment by the consumer" (p. 72). However, these authors ignore the fact that intermittent schedules can be and are used in marketing in situations that do not require a change in product performance or quality. Differentiating brands and developing repeat purchase behavior is often done by manipulating other marketing variables (i.e., price and promotion) on intermittent schedules. Moreover, since purchase requires a sequence of behaviors, intermittent schedules can be used to increase the probability of many other responses (e.g., going to a store) in the purchase-consumption sequence.

Immediate and Delayed Reinforcement

Most research has shown that immediate reinforcement is more effective than delayed reinforcement for changing behavior. However, this should not obscure the fact that delayed reinforcement may still be useful, especially for maintaining behavior. As Kazdin (1980, p. 298) observed, "As behavior stabilizes and is well-established, the delay between behavior and the rein-

forcing consequences can be increased without a loss in performance." Thus, in marketing the premiums obtained from proof-of-purchase coupons may well be reinforcers for maintaining the purchase of consumer goods, even if the delay in reinforcement is four to six weeks. This conclusion contrasts sharply with behavioral learning theory which argues against the use of mail premiums.

The issue of delayed reinforcement also has important implications for extinction.³ Rothschild and Gaidis (p. 73) argue that it is important to build behavior toward the product and not toward the promotional incentive in order to avoid extinction of behavior when incentives are removed. However, the BMP reminds us that a superior product is one reinforcer; many other outcomes may be used to avoid extinction. Thus, the use of other contingencies and incentives might often be part of a profitable long run strategy. Of course, as with other elements in the operant model, whether and how long product-use reinforcement can be delayed for particular brands, products and product classes before extinction occurs are empirical questions.

Finally, it is clear that any reinforcement from product use is usually delayed rather than immediate reinforcement since often consumers do not use the product immediately after purchasing it. Yet they do exhibit repeat purchase behavior. Research investigating time delays between purchase and consumption for various products and the effects on repeat purchase behavior could have both conceptual and practical significance. Also, research on giving immediate non-product reinforcement (e.g., a bonus of some sort) at the time of purchase of products which have delayed reinforcing effects on their own, might lead to tactics for overcoming any decrease in response rate resulting from delayed product-use reinforcement.

Primary and Secondary Reinforcers

One important issue raised by Rothschild and Gaidis is that primary reinforcers are more powerful, e.g., "Secondary reinforcers . . . are still, theoretically less powerful than primary reinforcers" (p. 73). Based on their arguments that products are primary reinforcers and deals are secondary reinforcers, and that primary reinforcers are more powerful, Rothschild and Gaidis argue that "perhaps marketers should

³It should be noted that extinction employs neutral consequences and punishment employs aversive consequences. Rothschild and Gaidis suggest that, ". . . lack of reinforcement (poor product performance) will lead to rapid extinction of behavior" (p. 72). However, poor product performance is an aversive consequence and thus is more likely to be punishment rather than extinction.

concentrate on deals which give more product per unit of price" (p. 73). While it may be true that primary reinforcers are more powerful, the importance of the distinction for marketing can be easily overstated. As a practical matter, the strength of a reinforcer in some absolute sense may be unimportant in a modern society since in most circumstances, money can usually be exchanged for food quickly and easily. Also, money and other generalized secondary reinforcers are usually more flexible and useful for marketing tactics than are primary reinforcers. Thus, what they may lack in absolute power is compensated for by their versatility.

Similarly, the Rothschild and Gaidis discussion of the types of deals marketers should use may be overstated since there is nothing in operant conditioning to suggest a priori which types of deals are more effective. Not only are most products secondary rather than primary reinforcers, but also cents-off purchase deals, increasing package size for the same price, newspaper coupons and other incentives offered before purchase are not reinforcers of an initial purchase.⁴ Whether deals are profitable tactics and which type of deal to use are empirical questions from an operant conditioning perspective. Even for products that are primary reinforcers (food) few operant conditioners would argue that food would be a more powerful reinforcer than money in our society unless the consumer had been deprived of food. Thus, the Rothschild and Gaidis recommendation for the types of consumer deals that marketers should use is based on a misinterpretation of operant concepts and the BMP.

Low and High Involvement Purchases

The role of operant conditioning in low and high involvement purchases brings up an important issue. Both Kassarjian (1978) and Rothschild and Gaidis have argued persuasively that operant conditioning is a useful perspective for low involvement consumer behavior. However, it is premature to discount operant conditioning in high involvement situations. While high involvement situations may require an analysis of more behaviors and contingencies, there is no reason why operant conditioning principles cannot be applied effectively. In fact, the focus of the BMP on breaking down a purchase into a sequence

⁴Although deals or incentives offered before purchase are not reinforcers, they may increase the probability of purchase. However, they are not really discriminative stimuli in most cases since purchase and reinforcement from purchase can occur in the absence of such deals. Thus it would appear that approaches other than operant conditioning may provide more useful guidelines for the initial selection of deals or incentives.

of behaviors or behavioral components may well be fruitful for investigating high involvement as well as low involvement purchase. For example, suppose a car dealer wants to shape an automobile purchase. Free coffee and doughnuts are offered and given to anyone who comes to the dealership. Five dollars cash is offered and given to any licensed driver who will test drive a car. A \$500 rebate is offered and given to anyone who purchases a car. While we are not advocating this specific strategy, it does illustrate how operant conditioning principles can be used in a multi-step process to shape the purchase behavior of a typically high involvement purchase. Thus, the degree of consumer involvement may qualify but not rule out the successful application and study of operant conditioning or other elements of the BMP in marketing.

Summary and Conclusions

An attempt has been made to clarify and extend operant conditioning principles in marketing by comparing them with behavioral learning theory. It was found that unlike behavioral learning theory, operant conditioning and the BMP are not concerned with S-R theory, learning or other inferred psychological processes and are conceptually distinct from need satisfaction theory and hence from the marketing concept. It was also illustrated that shaping and a variety of reinforcement concepts are misinterpreted in behavioral learning theory, resulting in recommendations for marketing practice that are not supported by operant conditioning and the BMP. Unlike behavioral learning theory which views only continuous and immediate reinforcement as effective, operant conditioning and the BMP also view intermittent and delayed reinforcement as useful marketing tools. Finally, the usefulness of operant conditioning should not be constrained to low involvement purchase situations; high involvement purchase behaviors can also be modified by operant conditioning.

Operant conditioning and other BMP elements are apt to be used most easily and effectively in closed systems where control is easily exercised. However, there is no reason why application of these principles should not be effective in an open, competitive marketing environment. In fact, they are widely used by practitioners, apparently on an ad hoc basis. The major difference between the two environments is of degree, not kind; there are a greater number of contingencies and behaviors that must be dealt with in a functional (operant) analysis of marketing strategies and tactics in an open, competitive environment.

We continue to believe that operant conditioning and other elements of the BMP have much to offer marketing. Not only does the approach offer parsimonious, useful descriptions of events but also, per-

haps more importantly for practical purposes, a technology for predicting and controlling behaviors of interest to marketing. We hope that our work and that of Rothschild and Gaidis will stimulate further interest

in these areas, and we look forward to empirical investigations of marketing manipulations to modify and control overt consumer behavior.

REFERENCES

- Bandura, A. (1977), *Social Learning Theory*, Englewood Cliffs, NJ: Prentice-Hall.
- (1978), "The Self System in Reciprocal Determinism," *American Psychologist*, 33 (April), 344-358.
- Bindra, D. (1959), *Motivation: A Systematic Reinterpretation*, New York: Ronald Press.
- Fedor, Donald B. and Gerald B. Ferris (1981), "Integrating OB Mod with Cognitive Approaches to Motivation," *Academy of Management Review*, 6 (January), 115-125.
- Kassarjian, H. H. (1978), "Presidential Address, 1977: Anthropomorphism and Parsimony," in *Advances in Consumer Research*, Vol. 5, H. K. Hunt, ed., Ann Arbor, MI: Association for Consumer Research, xii-xiv.
- Kazdin, A. E. (1980), *Behavior Modification in Applied Settings*, Homewood, IL: The Dorsey Press.
- Lawton, L. and A. Parasuraman (1980), "The Impact of the Marketing Concept on New Product Planning," *Journal of Marketing*, 44 (Winter), 19-25.
- Nord, W. R. and J. P. Peter (1980), "A Behavior Modification Perspective on Marketing," *Journal of Marketing*, 44 (Spring), 36-47.
- O'Shaughnessy, John and Michael J. Ryan (1979), "Marketing, Science and Technology," in *Conceptual and Theoretical Developments in Marketing*, O. C. Ferrell, S. W. Brown and C. W. Lamb, Jr., eds., Chicago: American Marketing Association, 577-89.
- Rothschild, M. L. and W. C. Gaidis (1981), "Behavioral Learning Theory: Its Relevance to Marketing and Promotions," *Journal of Marketing*, 45 (Spring), 70-8.
- Salancik, G. R. and J. Pfeffer (1977), "An Examination of the Need-Satisfaction Model of Job Attitudes," *Administrative Science Quarterly*, 22 (Summer), 427-456.
- Skinner, B. F. (1953), *Science and Human Behavior*, New York: MacMillan.
- Staats, A. W. (1981), "Paradigmatic Behaviorism, Unified Theory, Unified Theory Construction Methods, and the Zeitgeist of Separatism," *American Psychologist*, 36 (March), 239-56.

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