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ABSTRACT

Innovative models for education are often quickly adopted. Behavior modification, or operant conditioning, is an example of a technique which has been widely used because, when properly applied in the classroom, it "works." However, the application of a technique should be carefully thought through in terms of the meaning of the behavior in question. For example, three children may exhibit the same disruptive behavior, or phenotype. Yet the geneses, or genotypes, of the behavior may be very different. The child may have learned this behavior through reinforcement at home or at school; the behavior may be an expression of an emotional injury; it may indicate a lack of social skill or knowledge of alternative ways of response; or there may be other causes. For all genotypes, behavior modification may be successful in changing undesirable behavior, but it does not always address itself to the underlying cause of behavior. A paradigm is given showing possible phenotype/genotype/treatment relationships. (Author/NH)

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Condition with Caution: Think Thrice Before Conditioning  
(In press: PEN: The Preschool Education Newsletter)

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"Innovation" and "dissemination" are two common terms in educational circles these days. Not only are we eager to develop innovative models for education, but we are also urged to disseminate information about them as rapidly as possible to reduce the time lag between innovation and adoption. At the ERIC\* Clearinghouse on Early Childhood Education, at the University of Illinois, we get an interesting overview of the cross-currents in the tides of progress in innovation and adoption.

The widespread adoption of behavior modification (sometimes called operant conditioning or behavior analysis) techniques in programs for normal young children is one example of rapid adoption. A large body of empirical data support the widespread faith in the power of behavior modification techniques to produce desirable learning outcomes. It seems reasonable to summarize the extensive testing of these techniques by saying that when they are properly applied in the classroom, behavior modification methods "work." For this very reason, the application of these techniques must be thought through carefully. I have always found it helpful to think about their implications in terms of the meaning of the behavior in question.

For the purpose of discussion we can use the example of disruptive behavior--a favorite topic of behavior modifiers (see for example, Becker, Thomas and Carnine, 1969). It is possible to think of three children, each exhibiting the same disruptive behavior, e.g. throwing blocks or toys. All three children "look" the same. We could say that these three children exhibit the same phenotype; that is to say that the phenomenon observed appears to be the same in all three children.

Now let us consider the three cases in terms of their genotypes, that is, in terms of the geneses of the behavior, or how the children

acquired the disruptive behavior being observed. I want to suggest at least three genotypes, although there may be many more.

The first genotype (G.I.) we could call the learning type. This child "learned" to be disruptive because whenever he has behaved this way at home, or at school he has received attention or some other reinforcement. Perhaps his mother distracts him from disruptive activity by offering him a cookie at such times; or perhaps teachers respond to his undesirable behavior by guiding him to his favorite activity, ostensibly to distract him. This child has learned the undesired behavior according to the principles of behavior modification; unwittingly his undesirable behavior has been reinforced.

The second genotype (G.II) we could call the emotional or sometimes neurotic type. This child's disruptiveness expresses some kind of emotional injury, the origin of which may or may not be known. Perhaps the child is trying to cope with anxieties or fears which have a long but unknown history. It may be that his home environment is emotionally tense or confusing, or that his attitude toward school includes some apprehension or expectation of rejection. For Genotype II, as for Genotype I, the disruptive behavior might have been reinforced. For example, the child might have been successful in intimidating other children, or the disruptive behavior might have relieved the child of tension, but the major stimulant of the behavior is some kind of internal stress.

A third genotype (G.III) we might call the socialization type. In this case, the child's behavior is a function of the fact that he lacks social skill or knowledge of alternative ways of responding to the psychosocial situation in which he finds himself. For whatever reason, no one has

socialized him, or taught him a more appropriate behavior for the situation. (See the schematic representation of the paradigm in Figure 1.)

Phenotype	Genotype	Treatment
Disruptive Behavior	Child I I. Learning (reinforcement history)	I. Operant Conditioning
	Child II II. Emotional Injury	II. Therapeutic Response
	Child III III. Inadequation Socialization	III. Teaching

Figure 1. Paradigm showing possible phenotype/genotype/treatment relationships

First, it should be acknowledged that for all three genotypes, behavior modification will "work." Behavior modifiers have been successful with many varieties of persistent and recalcitrant behavior patterns. However, the approach I am proposing here is that the treatment should correspond to the genotype. For example, only for Genotype I, (learning) is behavior modification really appropriate. In the case of this child, the reinforcing event which has typically followed his disruptive behavior can be consciously withheld. Suppose, for example, this child has typically been "distracted" with a favorite activity, or with a cookie whenever his undesirable behavior has been exhibited. Teachers and mothers can evaluate their own responses (see Becker, et.al.) and begin to carefully extinguish this behavior while reinforcing competing or more appropriate behavior. The child's behavior can be expected to change quite rapidly.

For Genotype II (emotional injury), although behavior modification will work and the behavior will disappear, the injury will still be there; perhaps a new manifestation will appear and the injury may take its toll in some other way. For this genotype, a suitable cathartic experience is

called for. Opportunities to "work out" or express unmanageable fears and tensions should be provided while the child acquires new skills. Parents and teachers can apply a "therapeutic response" to this child by which his feelings are acknowledged, his behavior is understood though not accepted, and alternative response patterns are encouraged (see Axline, 1964).

For Genotype III (inadequate socialization) the treatment needed is straightforward teaching. Certainly behavior modification will work, but it is not necessary to shape the child's behavior surreptitiously-- while he is not looking, so to speak! This child can be helped by the adults when they inform, clarify or explain to the child alternative strategies for solving the problem at hand. Adults can engage the child's own social intelligence in analyzing the problem to be solved, e.g., wanting to enter into a group at play. His own intelligence can be relied upon to weigh the alternative suggestions for more appropriate and functional behaviors with which to solve the problem. It would be inappropriate to offer this child or the child of Genotype I the therapeutic responses appropriate for Genotype II. Not all disruptive children are trying to cope with emotional stress; not all children need to "let off steam"--some are taught to be disruptive (G. I) and some are not taught how to behave otherwise (G.III). The indiscriminate application of conditioning techniques runs the risks of leaving injuries unassuaged, and instruction unsupplied. The indiscriminate use of psychotherapeutic techniques (as for G. II) runs the risks of protracting a pattern of behavior which expresses no deep mysterious tension, but an inappropriate conditioning history.

How can parents and teachers tell which child is which? After all, we have said that these three genotypes have the same appearance (phenotype). Knowing a child, as well as knowing about a child, are probably the first steps to discovering the underlying meaning of his behavior. Probably children of Genotype II (emotional injury) would be more persistent, and possibly more stealthy or furtive in exhibiting the behavior than the other two types. Possibly the soundest strategy is to begin the treatment of such behavior with the socialization treatment, namely to teach the child alternative ways of solving his problem. If the teaching does not work well, then careful analyses of the contexts in which the behavior occurs may help to discern the fitness of the other two genotypes to account for the behavior in question. The quality of the child's behavior, e.g. intensity, seriousness, anger, may be clues of value.

#### Summary

It has been proposed that children's behavior having the same appearance can be thought to reflect various origins, and that treatment of these behaviors should correspond to their genotypes. Although the example used here was "disruptive" behavior, the paradigm could be applied to other behavior which appears to have drive properties, e.g. dependency.

Sometimes it may be helpful to apply the paradigm to the behavior of adults! For example, the student agitators and disruptors on our campuses probably include some individuals who enjoy the inevitable attention such activities bring (G. I). But many students are expressing and articulating the serious problems of contemporary life in general, and modern universities in particular (G. II). Then again, many students' behavior is a function

of lack of information (G. III): if they had more information about the complexities of running modern universities, or any other large organizations, their behavior might take on different patterns. Would it not be an error for administrators, legislators and others to respond to all these genotypes in the same way?!

The paradigm outlined above is exploratory. There may be many more genotypes, and many may interact with each other. The diagnoses and prescriptions mentioned above are only suggestive. Perhaps you will share with us your own ideas and insights into such problems.

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