

of this effect to other classes of complex social behavior. It may be, for example, that children described as having behavior disorders would benefit from the initial use of any contingencies designed to accelerate cooperative social responding. Thereafter, differential consequence of increasingly appropriate elements in the higher frequency repertoire could lead to rapid acquisition of adaptive social behavior and a corresponding decrease in the frequency with which they are described as "disordered".

REFERENCE

Johnston, J.M. and Pennypacker, H.S. Strategies and Tactics of Human Behavioral Research. Hillsdale, New Jersey: Lawrence Erlbaum Associates, 1980.

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STRATEGIES FOR IDENTIFYING REINFORCERS AND PUNISHERS

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A reinforcer is an event that occurs immediately subsequent to a movement cycle and increases the frequency of that movement cycle. Similarly, a punisher is a subsequent event that decreases the frequency of a movement cycle. Strictly speaking, we cannot call an event a "reinforcer" or a "punisher" unless we have demonstrated its effects or functions relative to a measurable response. However, statements such as "we reinforced the response" commonly occur in the absence of the appropriate data. Even worse, we occasionally hear such statements as "reinforcement didn't work," which is a contradiction in terms. If a subsequent event did not increase the response frequency relative to a baseline measurement, it cannot be called a reinforcer.

All too often, psychologists, teachers, and other behavior change agents fail to identify reinforcing consequences, especially when working with the severely handicapped. Instead, they rely on such observations as "he seemed to like it," or "she ate the candy when I gave it to her." Such observations may be clues, but they are not proof that the events or substances in question are reinforcers. Unfortunately, especially in attempts to manage inappropriate behavior, we decide that procedures such as DRI (reinforcement of incompatible behaviors) will not work, and opt for other (often aversive) procedures because of an initial incorrect assumption that we have identified a reinforcing event. The problem is not that DRI didn't work. Rather, it wasn't applied -- we did not actually reinforce the incompatible responses (i.e., increase their frequency through subsequent event manipulations). Over and over again we observe failures in instruction or behavior management because of faulty assumptions concerning the function of subsequent events. We must begin to be more systematic in

Identifying reinforcers and punishers.

The following two cases illustrate strategies for identifying the functions of subsequent events. The basic approach is to identify a movement cycle that the client is capable of performing without assistance. It is best to find a simple motor movement (either an elementary skill or a problem behavior) which occurs frequently enough in a brief period (e.g., 1 or 2 minutes) to be able to present the subsequent event in question at least 3 or 4 times. One of the examples involved a test period of approximately 45 minutes on one day, while the other involved brief sessions each day for several weeks.

Case 1

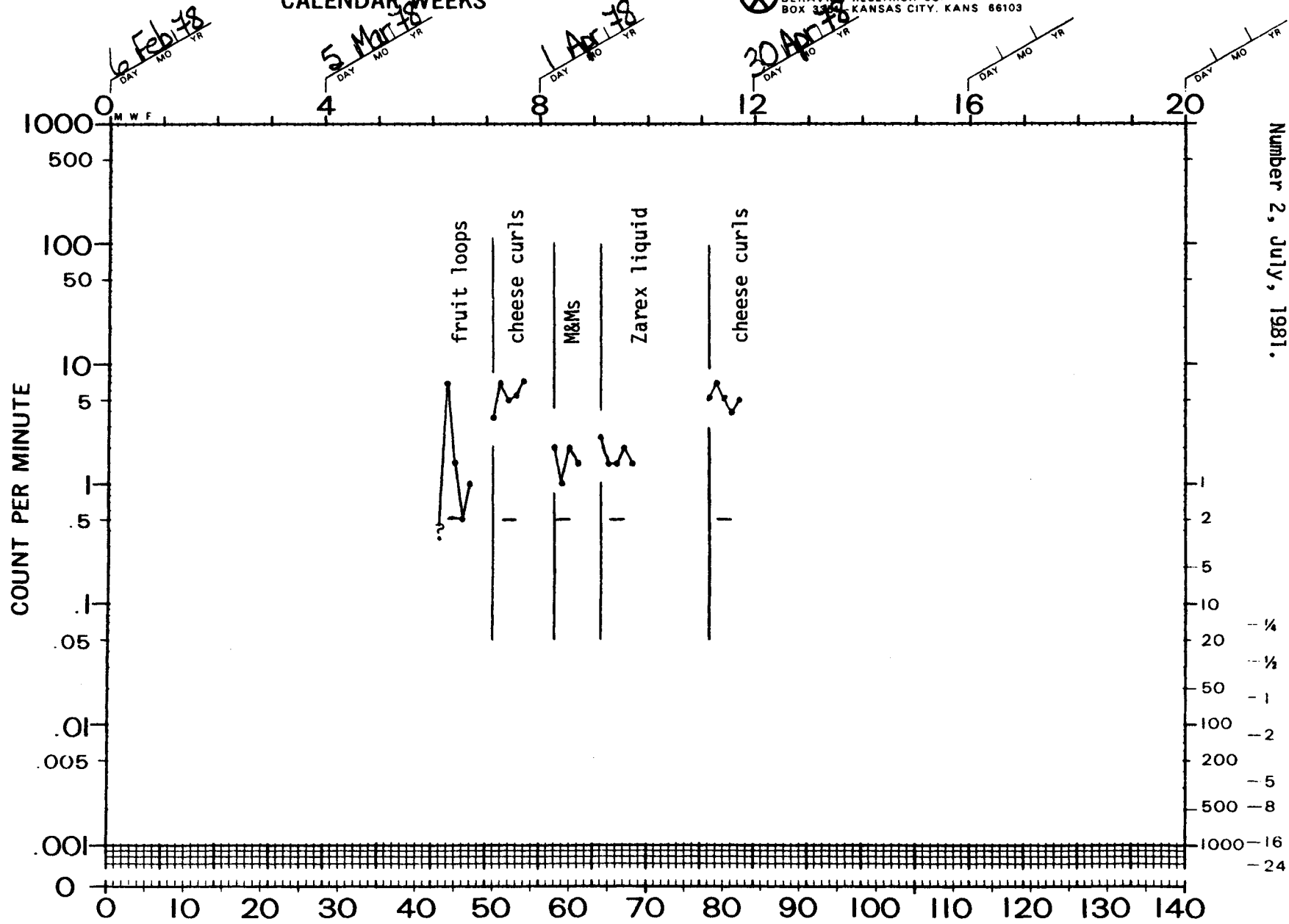
R., a 16 year old severely handicapped student, was able to open 35 mm film cannisters independently to obtain their contents. The teacher presented a box of the cannisters for 2 minutes each day to the student, initially demonstrating how to obtain their contents by removing the caps. During each of the 5 weeks in which the testing occurred, a specific substance or item was placed inside all of the film cannisters for each of 5 days. The teacher chose this task because the subsequent event (the contents of the cannister) was "built into" the task, and thus there was no question that it would be delivered immediately following the response.

It is apparent from the data (Chart 1) that cheese curls, which produced response rates of between 4 and 8 per minute for 2-minute sessions, were reinforcing, as contrasted with the other subsequent events (Fruit Loops, M&M's, Zarex Sweet Drink). Note that a series of tests, with retesting or "reversal" to the cheese curls during the last week, demonstrated that the first test of cheese curls was not a fluke or chance occurrence. From these data the teacher might decide to test other salty items, since saltiness is one obvious distinguishing characteristic of the cheese curls. (We should always attempt to identify as many reinforcing consequences as possible as a safeguard against satiation, daily variations in preference, etc.) We might generalize from this example to other skills for which the subsequent events being tested are an immediate and automatic effect, as would also be the case in an electronically programmed laboratory or "active stimulation" procedure.

Case 2

Penny was a profoundly retarded student who engaged in self-injurious behavior (face-slapping and head-hitting) at approximately 10 to 20 hits per minute. Her teacher attempted to identify a punishing consequence -- a liquid which when squirted into the mouth immediately subsequent to a self-injurious response, would reduce the response occurrence to zero. The testing procedure involved a single session of approximately 45 minutes in duration, during which the teacher counted and charted self-injurious responses for each 1-minute interval. During the first 18 minutes, the teacher delivered a squirt of lemon juice to the mouth for each response. As Chart 2 indicates, face-slaps and head-hits decelerated toward zero, and were entirely absent during 6 of the 18 intervals. (A question mark beneath the floor indicates a count of zero during that interval.) Tests of Gatorade and milk, interspersed with reversals to lemon juice, convincingly demonstrated the punishing function of lemon juice for this student. We can generalize from this case to consider tests for both reinforcing and

CALENDAR WEEKS



Binder, Carl, Pollard, Jim, and Rast, Jim. Strategies for identifying reinforcers and punishers. *Journal of Precision Teaching*, Volume II, Number 2, July, 1981.

Chart 1. Identifying reinforcers.

E. Francis	C. Binder	J. Pollard	SUCCESSIVE CALENDAR DAYS		R.	16	SMR	opens 35 mm
SUPERVISOR	ADVISER	MANAGER			BEHAVIOR	AGE	LABEL	COUNTED
Merrimack Education Center							film canisters	
DEPOSITOR	AGENCY		TIMER	COUNTER	CHARTER			

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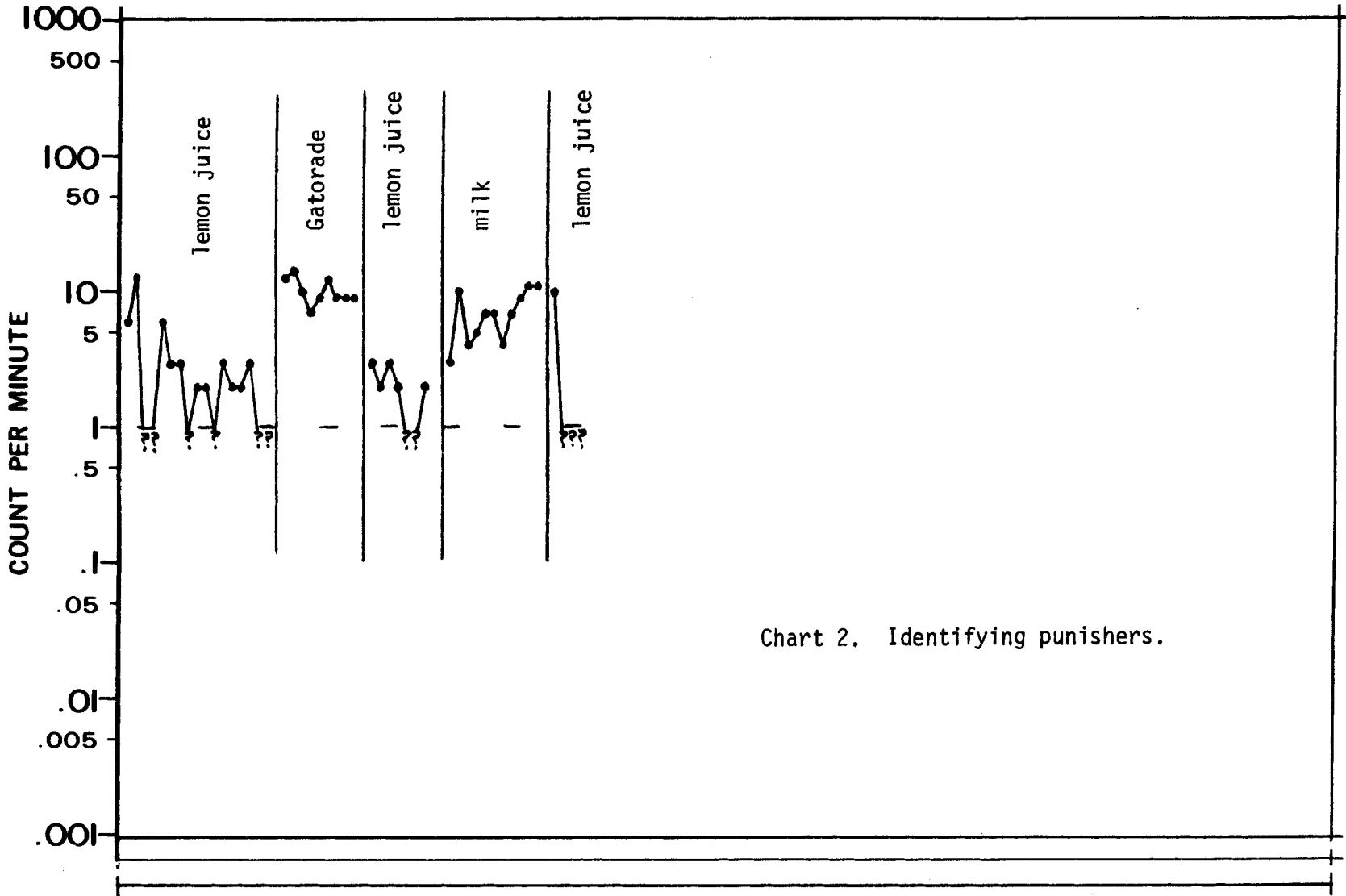


Chart 2. Identifying punishers.

SUCCESSIVE ONE MINUTE INTERVALS

H.S. Pennypacker Jim Rast

Penny

19

PMR

slaps face

Sunland Center Gainesville, Florida

Susan Beidler John Marting Jim Rast

or hits head

punishing functions of various subsequent events with a variety of simple movement cycles.

Particularly in cases which seem to require aversive consequences for behavior management, and thus human rights committee review, we should consider the use of preliminary tests (approved by the committee) of a set of subsequent events in the same category (e.g., liquids dispensed to the mouth). Such preliminary assessments would reduce the likelihood of extended periods of applying ineffective procedures on the basis of a single guess prior to full human rights approval.

REFERENCE

Lindsley, O.R. "Direct measurement and prosthesis of retarded behavior." Journal of Education, 1964, 147, 62-81.

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DATA-SHARING

WILL THE REAL "SLOW LEARNER" PLEASE STAND UP ?

Robert Bower
Wayne State College

Ken Meier
Howard Elementary School

The following data were collected in Ken Meier's regular fifth-grade classroom. Twenty-one students were provided with a list of 45 energy terms. Each child then prepared a set of flash cards. The student saw the front and said the back. Daily 1-minute timings were taken, followed by a short period of peer-conducted review. This was the first time this procedure was used with the children. Like most public school classrooms, Ken's room also contained those children who had been identified as "resource" or "gifted".

Chart 1 displays the data for all 21 children. Look at Chart 1. Draw freehand celeration lines for each of the children. Now try to identify the "resource", "regular", and "gifted" children based on those learning lines: