

## PERFORMANCE MANAGEMENT AND WELFARE REFORM: THE THREE-CONTINGENCY MODEL OF PERFORMANCE MANAGEMENT APPLIED TO WELFARE REFORM

Richard W. Malott  
*Western Michigan University*

*Rosie O'Grady and the colonel's lady are sisters under the skin.* —Rudyard Kipling

**ABSTRACT:** The three-contingency model of performance management suggests contingencies that could provide an effective basis for welfare reform. This model also suggests an analysis of the performance management contingencies of traditional efforts at welfare reform; and, in turn, that analysis suggests such traditional reform will not effectively increase functional behavior such as job finding nor decrease dysfunctional behavior such as drug abuse. This article is inspired by Nevin's (1998) analysis of welfare reform.

**Key words:** welfare, rule-governed behavior, three-contingency model of performance management, direct-acting contingency, indirect-acting contingency

### THE STORY

#### Dora's Deal

Dora sat fidgeting in the drab office of her case worker, Debby, looking at the floor as Debby continued, "Now, Dora, let us make absolutely sure you understand this; your support checks, your food stamps, and your medical insurance will last just two years from today. After that, no more money, no more food stamps, and no more medical insurance. So you've got to get hustling, right now; it's no easy thing to find a job. I know two years seems like a long time, but that time will fly. Now are you sure you understand this?"

"Yes, ma'am, I sure do understand. But don't you worry none about me waitin' no two years to find a job. I wants a job right now. This welfare business humiliate a woman; and ever' time I see her, my mama axe me when I gonna' get a job. Besides, a body can't feed and clothe three children on what welfare pay.

#### AUTHOR'S NOTE:

Please address all correspondence to Richard W. Malott, Department of Psychology, Western Michigan University, Kalamazoo, MI 49008-5052. Email: [Richard\\_Malott@compuserve.com](mailto:Richard_Malott@compuserve.com).

## MALOTT

I'm gonna' start my job search first thing tomorrow," Dora replied with grim determination.

"By the way," Debby said, "I see you have two prior arrests for possession of an illegal substance. You know, if you get convicted of a drug felony while you're receiving welfare support, you will lose that support immediately."

"Ma'am, don't you worry 'bout me none; I am clean now."

### Debby's Deal

Debby sat fidgeting in the drab office of her doctoral committee chair, Dirk , looking at the floor as Dirk continued, "Now Debby, let us make absolutely sure you understand this; you've got just two more years to finish your dissertation. Then you've hit the graduate school limit, and Big State U. will drop you from the program. So you've got to get hustling, right now; it's no easy thing to do a Ph.D. dissertation. I know two years seems like a long time, but that time will fly. Now, are you with me?"

"Yes, Dr. Duke, I sure am. But you don't have to worry about me; you know I'm a self-starter. Getting my Ph.D. means a promotion and a pay raise. And still being in school is humiliating for a woman my age; every time I see her, my mother asks me when I'm going to graduate. Besides, I want to send my daughter to a private school, and I can't do that on what Social Services pays a caseworker. I'm going to start my literature search the first thing tomorrow," Debby replied, with grim determination.

### Dora's Day

Dora's oldest daughter grabbed the last Dunkin' D. donut from the box on the card table and headed off to school. Dora thought, "Now, I'll pick up a newspaper and checkout the classifieds," as she flipped on CNN. "Oh, my lord, the President did that, and on an Easter Sunday," she said and sat down in front of the TV. "I'll just watch for a couple minutes, before I go to the newsstand."

Two hours later, Dora arrived at the newsstand; but before she started browsing through the boring classifieds, she'd just glance at *People Magazine*. An hour later, she recalled that her two younger children were alone, so she dropped *People M.* and rushed home.

## PERFORMANCE MANAGEMENT AND WELFARE REFORM

### Debby's Day

Debby's daughter finished her granola and skimmed milk, rinsed off the dish and spoon, and headed off to school. Debby thought, "Now, I'll pick up *Psych. Abstracts* and checkout the references," as she flipped on NPR. "Oh, god, the President did that and on an Easter Sunday," she said and sat down in front of the FM. "I'll just listen to NPR for a couple minutes, before I go to the library."

Two hours later, Debby arrived at the library, but before she started browsing through the boring *Psych. Abstracts*, she'd just glance at the *APA Monitor*. An hour later, she realized she'd soon be helping support BSU's scholarship fund, so she dropped the *APA M.* and rushed out to her car, just before the officer had a chance to ticket it. Not enough time to go back to the library now; it was almost time for lunch and then the P.M. shift at the office.

### Dora's Month

Dora sat fidgeting in the drab office of her case worker, looking at the floor as Debby continued, "So, Dora, how's the job search going? Any hot leads? Any interviews?"

"Well, ma'am, I ain't exactly had no interviews yet; but I be workin' on it," Dora replied. "It's jess that it's so hard, what with the babies and all; you know I can't afford no baby sitter."

"That's a good point," Debby said. "And Social Services now has a new support system where you can take your children to our childcare facility while you look for a job."

"Oh, that be jess the ticket, ma'am. That'll really help," Dora said.

### Debby's Month

Debby sat fidgeting in the drab office of her doctoral committee chair, looking at the floor as Dirk continued, "So, Debby, how's the lit review going? Any hot leads? Any dissertation ideas?"

"Well, Dr. Duke, I don't have any viable ideas yet; but I'm getting close," Debby replied. "It's just that it's so hard not having my own computer to do lit searches on the Internet so I can download the results into a data base. And I can't afford a computer."

"That's a good point," Dirk said. "And BSU's Grad. College now has a new program where they will give students interest-free loans to buy computers for working on their dissertations, especially for nontraditional students."

#### MALOTT

"Oh, that's wonderful, Dr. Duke. That will really help," Debby said.

#### Dora's Year

Dora fidgeted, as Debby continued, "Dora, it's been a year; and you haven't shown any sign of progress toward getting a job."

Dora: "Well, it's hard to know where to start. I . . ."

Debby: "Did you even called a single employer all year?"

Dora: "Well, ah . . ."

Debby: "I'm going to enroll you in my weekly confidence-building support group. You're going to learn to be assertive and cope with your fear of failure; and we'll also discuss how you're feeling about yourself."

"Oh, that's just the ticket, ma'am. That'll really help," Dora said.

#### Debby's Year

Debby fidgeted, as Dirk continued, "Debby, it's been a year; and you haven't even turned in your dissertation proposal, let alone collected any data."

Debby: "Well, I've spent a lot of time on the web looking for . . ."

Dirk: "I haven't even seen an outline of your proposal."

Debby: "Well, it's so hard with my full-time job and my daughter; and I am a single parent; I . . ."

Dirk: "I want you to attend the Grad. College's weekly dissertation support group, where you'll learn to write using the APA Style guidelines, to design good research, and how to search the web for research references."

"Oh, thank God; that's just what I need, Dr. Duke. That will really help," Debby said.

#### Dora's Doom

Debby: "Dora, you got arrested for possession of a controlled substance and it looks like you'll get convicted. And your two years are up but still no job. I hate to say this, but you've really disappointed me; and worse than that, you're now going

to lose all social service support. I'm really sorry Dora, but you've brought it all on yourself. I don't know what's the problem with

Dora: "You right, ma'am. I don't know what's wrong with me either." Dora wiped her eyes with the back of her hand. "I don't know what's gonna' become of me; and what they gonna' do with my babies?"

Actually, Debby did know what was the problem with those people: "These welfare mothers have absolutely no will power, don't appreciate the value of a job, can't find their butts with a road map, have no sense of responsibility, and no ability to delay their gratification. What's worse, it's genetic; the only solution is eugenics."

### **Debby's Doom**

Dirk: "Debby, your two years are up; and not only did you not finish your dissertation, you never even wrote a proposal. I hate to say this, but you've really disappointed me; and worse than that, you will be dismissed from our graduate program. I'm really sorry Debby, but you've brought it all on yourself. I don't know what's the problem with graduate students today."

Debby: "You're right, Dr. Duke. I don't know what's wrong with me either." Debby wiped her eyes with a tissue from her purse. "I've spent so much time and money on my Ph.D. degree; now it's all lost, and I have to make payments on that computer for the next four years."

### **Dr. Dirk Duke's Doom**

Dirk walked down to the faculty mailroom thinking with disgust about Debby, "The field's better off without a weak sister like her who can't find their butt with a road map. Grad students today are just in it for a free ride. They have no sense of responsibility. Their priorities just aren't academic; their priorities are in terms of having a good time. They aren't real scholars; they don't really value a Ph.D. degree. And they can't delay their own personal gratification long enough to do what a scholar needs to do. They aren't like we were six years ago, when I was a grad student."

Then Dirk pulled the letter out of his mail box, opened it. It was from Dean Bean: "Dear Dr. Dirk: I regret to inform you that you have been denied tenure, because, during the past six years, you failed to demonstrate sufficient scholarly productivity in terms of the number of articles published in refereed journals and in terms of effort to achieve external funding for your research."

What Dean Bean thought, but did not write was: "Big State U. is better off without weaklings like this Duke character who can't find his butt with a road map. No sense of responsibility. Their priorities just aren't academic; not real scholars. Can't delay their personal gratification long enough to sit down and write an occasional article. They aren't like we were 18 years ago, when I was an assistant professor."

MALOTT

### Debby's Deliverance

Debby sat fidgeting in the drab office of Dr. Bobby Behavior, looking at the floor as Bobby continued, "Now here's the deal: I've talked the Department and the College into letting you stay in our grad program, as long as you're meeting the weekly subgoals specified by a performance management contract and are making good progress on your dissertation. In addition, I'm willing to take over Dr. Duke's vacated position as chair of your committee, if you'd like."

"Oh, Dr. Behavior, I sure would appreciate that," Debby said.

"That's good," Bobby thought, "because no one else was willing to chair your committee; but then no one else really thinks behavior management should be applied to anyone but the mentally handicapped and factory workers." But what Bobby B. said was, "We'll break the long-range goal of completing your dissertation into weekly subgoals. Then we'll break the weekly subgoals into daily subgoals. And you can email me your accomplishments once a day. Then we'll meet once a week to review your proofs of accomplishment and fine tune your performance management contract for the next week."

"But, Dr. Behavior, I can't even figure out a topic for my dissertation," Debby said.

"How about going for a two fer; how about doing your dissertation where you work, at social services, like find some serious behavioral problem there and use behavior analysis to solve it?" Bobby B. said.

### Dora's Deliverance

Debby: "Now here's the deal: I've talked the Department of Social Services into letting you continue with welfare support, as long as you're meeting the weekly subgoals specified by your performance management contract and are making good progress toward finding a job."

Dora: "Oh, Miz Debby, honey, I surely would appreciate that."<sup>1</sup>

Debby: "We'll break the long-range goal of finding a job into weekly subgoals. Then we'll break the weekly subgoals into daily subgoals. And you can

<sup>1</sup> For two reasons, I run the risk of perpetuating the myth that the majority of welfare recipients are African-American by presenting Dora's speech in dialect. First, at least for those who care, I think it is important not to ignore the tragedy that a disproportionate percentage of African Americans are on welfare. But, second and more to the point of this article, I think it is important to contrast the educational/socioeconomic level of Rosie O'Grady and the colonel's lady (Dora and Debby) to emphasize that they really are sisters under the skin (that their behavior is equally poorly controlled by ineffective natural and ineffective performance management contingencies and that their behavior is equally well controlled by effective performance management contingencies).

call me about your accomplishments once a day. And we'll meet once a week to review your proofs of accomplishment and fine tune your performance management contract for the next week."

## THE PROBLEM: NATURAL CONTINGENCIES

### Traditional Mentalistic Analyses

Why do Dora and Debby have trouble doing what it takes to find a job or finish a dissertation? A traditional mentalistic analysis answers this question in terms of invented inner causes, such as lack of will power and lack of the ability to delay gratification (e.g., Dora and Debby do not have the will power to resist the temptation of the immediate gratification coming from *People Magazine* and the *APA Monitor*). And because it is hard to imagine why someone will not do something they want to do, traditional analyses often infer a lack of appreciation (e.g., lack of appreciation of the value of a job or a Ph.D. degree).

Many traditional explanations in terms of invented inner causes are reifications, in that an activity (e.g., working toward a goal) is transformed into a causal noun/thing (e.g., will power). And these explanations are circular reifications to the extent that the proof of the existence of that reified cause is inferred from the activity it was invented to explain (e.g., they do not work toward their goal because they lack will power, and you know they lack will power because they do not work toward their goal) (Malott, Whaley, & Malott, 1997, p. 29-30).

And why does Dora use illegal drugs? Again, a traditional mentalistic analysis would answer in terms of circular reifications like lack of will power and an inability to delay gratification; and if that does not suffice an addictive personality can be reified into existence and thrown in the pot of reification stew.

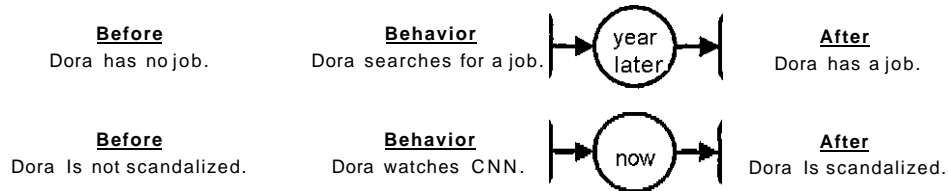
### Traditional Behavioristic Analyses

#### *The Myth of Incompatible Contingencies: Important Delayed vs. Trivial Immediate Outcomes*

Why do Dora and Debby have trouble doing what it takes to find a job or finish a dissertation? A traditional behavioristic analysis answers this question in terms similar to the mentalistic analysis, but the "inability to delay gratification" is translated into a "strong preference for immediate reinforcers rather than delayed reinforcers" (e.g., the reinforcers of finding a job or getting a Ph.D. degree are too

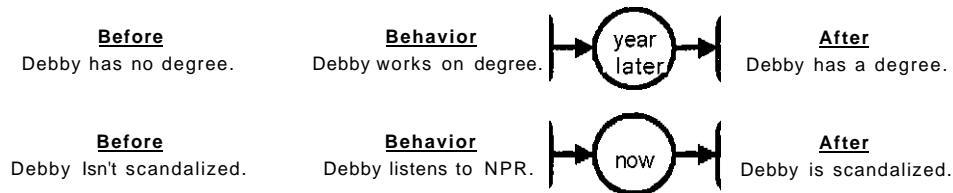
delayed to compete with the immediate reinforcers of scandal in the White House).

### Traditional Behavior Analysis: Incompatible Contingencies



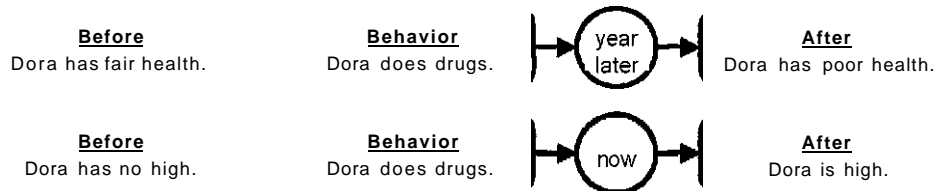
The same analysis applies to Debby's procrastination.

### Traditional Behavior Analysis: Incompatible Contingencies



And why does Dora do drugs? Again, a traditional behavioristic analysis would answer in terms of strong control by the *immediate* reinforcing effects of the drug vs. the weak control of the *delayed* harmful effects of the drug.

### Traditional Behavior Analysis: Incompatible Contingencies



In **Other** words, the traditional behaviorist says this is a problem of immediate vs. delayed outcomes. Such analyses are fortified by extrapolations from the Skinner box where, indeed, behavior is more readily controlled by immediate, contingent reinforcers than by 20-second-delayed contingent reinforcers. But I will argue that such extrapolations are overly simplified (Malott & Garcia, 1991). In summary, these traditional behavior analyses are essentially intellectualized



versions of grandmother's common-sense analyses—"This new, me generation just can't delay gratification like we could in the old days."

*The Myth of Incompatible Contingencies: Two Important Immediate Contingencies*

A traditional behavior analysis will also point to other types of competing contingencies. For example, traditionalists will point to the contingencies with immediate outcomes controlling childcare vs. the contingencies with outcomes, either immediate or delayed, failing to control the job search. (In the present example, the childcare contingency is described in terms of a penalty contingency for searching for job ads; this allows us to concentrate on the behavior of primary interest, searching for job ads. The two previous pairs of diagrams could also have been described in terms of penalizing the productive behavior with the loss of the reinforcing opportunity to be scandalized.)

## Traditional Behavior Analysis: Incompatible Contingencies Reinforcement

|   |  |   |
|---|--|---|
| <p><u>Before</u><br/>Dora has no<br/>opportunity<br/>to get job<br/>ads.</p>        | <p><u>Behavior</u><br/>Dora goes to<br/>the<br/>newsstand,<br/>in search of<br/>job ads.</p> | <p><u>After</u><br/>Dora has an<br/>opportunity<br/>to get job<br/>ads.</p> |
| <p><u>Before</u><br/>Dora's<br/>children are<br/>not<sup>1</sup><br/>neglected.</p> |  | <p><u>After</u><br/>Dora's<br/>children are<br/>neglected.</p>              |

## Penalty

However, in these cases, the traditionalist implication is not so much that the problem is due to the of lack of control by delayed outcomes as much as that it is

impossible to do two important, physically incompatible things at once (e.g., search for job ads and take care of children).<sup>2</sup>

And these traditionalists will also point to the immediately aversive punishment contingencies suppressing a computerless reference search.

## Traditional Behavioral Analysis: Incompatible Contingencies Reinforcement

| Before  |   | After   |
|---|---|---|
| Debby has<br>no opportu-<br>nity to get a<br>reference. | <b>Behavior</b>   | Debby has<br>an opportu-<br>nity to get a<br>reference. |
| <b>Before</b>   | Debby goes<br>to the library<br>in search of<br>references. | <b>After</b>  |
| No aversive<br>computer-<br>less ref.<br>search.        |   | Aversive<br>computer-<br>less ref.<br>search.           |

## Punishment

I will argue that even when you remove competing contingencies, the ineffective natural contingencies and the ineffective performance management contingencies will still fail to control behavior.

### *Ineffective Traditional Interventions: Eliminating Competing Natural Contingencies*

It is a common but often erroneous analysis to blame competing natural contingencies for failure of other natural contingencies to control the behavior as

<sup>2</sup> Mattaini: How do we account for which is "chosen"?

Malott: In this particular case, I will later argue that the job-search contingencies will not control behavior, even if the competing childcare contingencies are removed. So there was really no contest.

we wish.<sup>3</sup> True, childcare contingencies do compete with job search contingencies. But usually when such competing contingencies are eliminated or greatly attenuated, the natural contingencies will *still* fail to maintain job search behavior at an adequate frequency. Although there may be an increase in the frequency of going to the newsstand to check out the job ads, for instance, that frequency will still be too low to produce reliable success at job finding.

And true, the aversive effort contingencies associated with going to the library to search for references do compete with reference search reinforcement contingencies. But, when the purchase of the computer eliminates or greatly attenuates such punishment contingencies, the natural contingencies will still fail to reinforce enough reference-search and proposal-writing behavior. The frequency of Debby's reference searches will still be too low to produce reliable success at completing her dissertation. Similarly, getting rid of the TV or the FM may help, but it will not suffice.

<sup>3</sup> Mattaini: Is this too strong? When competing contingencies are present, the marching law seems to work awfully well—for example, protecting children vs. going to work for some moms in dangerous areas I suspect is an active, powerful competing contingency. When competing contingencies are not present, however, I think you're right that small cumulative uncertain consequences are still not effective. . .

Malott: First of all, I think the generality of the matching law is greatly over-estimated by we behavior analysts who want to prove that the science of the experimental analysis of behavior has some minimal relevance to important issues of the real world and by we applied behavior analysis who want to prove that our real-world analyses and recommendations are based on hard, laboratory science. The matching law is not even general in the highly artificial world of the Skinner box, let alone in the world of Dora and Debby. Within the Skinner box, the marching law applies only to very restricted, free-operant preparations, ones where the concurrent schedules and the change-over delays must be carefully selected if we are to get those data points to fall on a reassuringly straight line. But the concurrent schedules of the real world are rarely variable-interval schedules, and who knows about the change-over delays. Furthermore, the concurrent contingencies of the real world are usually discrete-trial contingencies, not the free-operant contingencies so over-emphasized by experimental analysts. And even more crucially, the concurrent contingencies of the real world are often indirect-acting, rule-governed contingencies that are only analogous to the direct-acting contingencies of the Skinner box. So when we treat the indirect-acting, real-world contingencies as if they were homologous to the direct-acting, Skinner-box contingencies, we are making a simplistic, 'metaphoric extension from the Skinner box to the real world, extensions that obscure, rather than clarify, the behavioral processes underlying these real-world, rule-governed, indirect-acting verbal analogs to the direct-acting contingencies of the Skinner box. (And, oh yes, I realize that the Skinner box is also part of the real world and a crucial tool for the analysis of contingencies in the real world, but useful only if done with the greatest of care.) Now, if there are any of my colleagues whom I have not offended, let me know and I will revise this paragraph.

But back to the mother who is afraid to leave her children in a dangerous real world so she can search for a job. My point is not that the possibility of harm to her children is not part of an important contingency. My point is that, even when you remove that possibility by providing day care, often the job-finding contingency will still fail to control behavior.

Mattaini: Not quite convinced there are as many simple discrete trial events in natural settings as suggested (the "sea of contingencies" described by Malott, Whaley, and Malott may preclude them), or as few free-operant situations, but a lot of useful arguments here.

***Ineffective Traditional Interventions: Removing Skill Deficits***

It is also true that we need skills to accomplish tasks, and sometimes we do not have those skills. But more often, people think the problem is skill deficit when it is really failure of natural contingencies to support task accomplishment. Therefore, often after skill training, the frequency of task completion does not increase greatly. And therefore, teaching Dora how to be properly assertive may have insufficient impact on her job-search behavior. And while this may not fit too comfortably in the skill-deficit area, workshops to increase Dora's self-confidence, even if the workshops are successful, will probably have little effect on job searching. (In fact, informal observation suggests that often it is those who fail to achieve who are the most confident that they can procrastinate until the last minute and will still have plenty of time to complete the task before the deadline; they have this false confidence in spite of repeated failures to start working in time to complete tasks by their deadlines. Only those plagued with neurotic, unrealistic fears of failure to complete the task on time actually start work on the task early enough to complete it on time.)

Similarly, Debby's learning to write using the APA Style guidelines, to design good research, and to search the web for research references does not address the problem of the natural contingencies that are ineffective in reinforcing her working on her dissertation.

**A Radical-Behavioral Analysis**

***The Mythical Cause of Poor Self-management***

It is correct that the delay between the response and the delivery of the reinforcer is crucial for direct-acting behavioral contingencies such as those studied in the Skinner box. However, the problematic contingencies of primary concern in the lives of verbal human beings usually involve outcomes that are so delayed they are only indirect-acting analogs to the Skinner-box contingencies; the delays are so great that the contingencies would not control behavior even indirectly if the person could not state a rule describing those contingencies, that is, if the behavior were not rule governed (Malott, Whaley, & Malott, 1997, p. 332-380). But contrary to traditional mentalistic and behavioristic analyses, the delay is not a problem if the person can state a rule describing the contingency (e.g., Dora has no trouble saving the on-sale newspaper coupons from the local supermarket, even

though she will not be able to use them until she goes to the store two days later;<sup>4</sup> and Debby will have no trouble (well, not too much trouble) preparing and sending her dissertation-poster proposal to the Association for Behavior Analysis, even though she will not be able to present her poster at the conference until seven months later.)

In summary, the traditional mentalistic and traditional behavioristic analyses illustrate the mythical cause of poor self-management—poor self-management results from control by immediate outcomes and the lack of control by delayed outcomes; so we fail to act in our long-run best interests.

As the sale coupons and the poster proposal suggest, contingencies with delayed outcomes can control the behavior of verbal people, if the people know the rules describing those contingencies. Then why does Dora have so much trouble getting herself to search for a job? And why does Debby have so much trouble getting herself to search for dissertation references and dissertation topics and so much trouble getting herself to write her dissertation proposal? If it is not the delayed outcomes, what is it?

### *The Real Cause of Poor Self-management*

Effective Natural Contingencies. Let us look more closely at a term we have already been using, *natural contingencies*. Natural contingencies are those contingencies that occur in nature, without special intervention, those that are not specifically designed to control behavior. Most natural contingencies are effective and, therefore, attract little attention. Our lives are full of effective, natural, *direct-acting* Skinner-box contingencies: When we are hungry, we eat. When we are thirsty, we drink. When we itch, we scratch. When we are horny, we . . .

Our lives are also full of effective, natural, *indirect-acting*, rule-governed, verbal analogs to Skinner-box contingencies. Even when we are not hungry, thirsty, itchy and horny, we fill up our shopping cart with rolled oats, Diet Coke, calamine lotion, and *Sports Illustrated's* swimsuit special, because we know the relevant establishing operations will kick in at some time in the future.

<sup>4</sup> Interesting. . . I don't cut out and save those coupons, though I could; but if they were in front of me while standing in the checkout line, I would—what's the difference other than the delay, I wonder. . .

Malott: First, the difference between Dora and you: She is living so close to the bone that her cutting out the coupons will determine how much she and her kids have to eat tonight. But you are one of those highly paid college professors who will buy everything he intended to buy, and perhaps a few extras, with or without the coupons.

Second, but related, I suspect you would not take the time to search for and cut out the few coupons relevant to your interests, even if someone handed you a newspaper and pair of scissors as you entered Krogers, and for much the same reasons that you would not cut them out at home, it's not cost-effective for you. But for a fortuitous set of parameter values, we would all be coupon clippers.

## MALOTT

However, often the natural contingencies are ineffective. That is when behavior analysts are called upon, or at least should be called upon.

**Reinforceable Response Units.** Behavioral contingencies act on reinforceable response units, like leaving the house to go pick up a newspaper with the job notices or leaving the house to go to the library. Behavioral contingencies act most directly at this molecular level of reinforceable response unit, not at the global level, like finding a job or writing a dissertation; finding a job and writing a dissertation might take days or weeks, or even months.

Reinforceable response units are usually single, discrete responses of short duration, like sitting down at the computer, though they might be long response chains, like walking from the apartment to the newspaper stand (you could train a nonverbal organism to go to the newsstand, pick up the paper, and return home, as long as a reinforcer were given immediately on entering the home, and as long as there were no long breaks in the response chain). However, the delivery of a reinforcer at the end of the response chain would not maintain the response unit for nonverbal organisms if there were delays in the chain of perhaps more than 60 seconds, as might happen if the way to the newsstand were littered with reinforcing distractions, such as other nonverbal organisms, especially if they were cute.

**Ineffective Natural Contingencies: Dora's Dilemma.** In analyzing ineffective natural contingencies, let us look at the reinforceable response units, where the action is, rather than at the molar, global response units of traditional analyses. Then we get a different perspective. So rather than look at Dora's finding a job, let us look at Dora's leaving her apartment to go to the newsstand (where she can get a newspaper with the job notices).

### Ineffective Natural Contingency

| <b><u>Before</u></b>                    | <b><u>Behavior</u></b>                              | <b><u>f</u></b> | <b><u>After</u></b>                     |
|---|---|-----------------|---|
| Dora has no opportunity to get job ads. | Dora goes to _____ the newsstand, in search of ads. |                 | Dora has an opportunity to get job ads. |

The problem is that the opportunity to get the day's classified ad section is not a big enough reinforcer to reinforce Dora's leaving her apartment and going to the newsstand, regardless of the delay in the delivery of the reinforcer (the

## PERFORMANCE MANAGEMENT AND WELFARE REFORM

opportunity to purchase the newspaper). In general the outcomes contingent on each little job-finding step are too small to reinforce those steps. They are too small, even though those outcomes would cumulate into a very large and reinforcing outcome, a job.<sup>5</sup>

Ineffective Natural Contingencies: Debby's Dilemma. Let us look at a realistically small reinforceable response unit for Debby's writing her dissertation proposal, for example, writing a sentence, or even more realistically, a phrase. There are two ineffective natural contingencies for Debby's writing. One involves the outcome of the sight of a well-turned, logical, apt phrase—a potential intellectual reinforcer.

### Ineffective Natural Contingency

| <u>Before</u>                           | f | <u>Behavior</u>                      | f | <u>After</u>                            |
|---|---|--------------------------------------|---|---|
| Debby has no intellectual "reinforcer." |   | Debby writes one well-turned phrase. | N | Debby has an intellectual "reinforcer." |

The problem is that such intellectual "reinforcers" are often too small to reinforce their production, perhaps because of their difficulty or rarity of attainment. They are too small, even though those outcomes would cumulate into a large and reinforcing outcome, a well-written proposal. (These small outcomes might still be large enough to qualify as reinforcers, in that they might reinforce less effortful acts, like reading the well-turned phrases.)

The other ineffective natural contingency involves the outcome of progress toward a completed dissertation and a Ph.D. degree.

### Ineffective Natural Contingency

| <u>Before</u>                       |  | <u>Behavior</u>                      |   | <u>After</u>                       |
|-------------------------------------|--|--------------------------------------|---|------------------------------------|
| Debby has no progress "reinforcer." |  | Debby writes one well-turned phrase. | N | Debby has a progress "reinforcer." |


<sup>5</sup> Maybe. .. is probability an issue here as well?

Malott: Maybe, but I think not a crucial issue. For example; probability has little to do with Debby's working on her dissertation; but she still procrastinates.

The problem is that such progress "reinforcers" are also often too small to reinforce their production. They are too small, even though those outcomes would cumulate into a large and reinforcing outcome, a Ph.D. degree.

**Ineffective Natural Contingencies: Dora's Drugs.** Thus far, we have mainly considered the problem of increasing the frequency of helpful behavior; but in the case of consuming harmful drugs, we must consider the problem of decreasing the frequency of harmful behavior. Now, I have argued that incompatible contingencies usually have little effect on the frequency of helpful behavior. But, contrary to this, without a reinforcement contingency maintaining the harmful behavior, there would be no need to decrease the frequency of such behavior. Without the reinforcing high, the frequency of Dora's consuming drugs might be zero.

## Ineffective Natural Contingency Reinforcement

|  |  |  |
|--|--|--|
| <u><b>Before</b></u><br>Dora has no<br>high.   | <u><b>Behavior</b></u><br>Dora does<br>drugs once. | <u><b>After</b></u><br>Dora is high.                         |
| <u><b>Before</b></u><br>Dora has fair<br> |  | <u><b>After</b></u><br><b>Slightly<br/>worse<br/>health.</b> |

## Punishment

The natural "punishment" contingency does not effectively punish doing drugs (the outcome is too small; the outcome of a single response is an infinitesimally small decrement in the quality of Dora's health). This outcome is too small, although the cumulative outcome of hundreds of such responses might be significantly large and very aversive.

These preceding examples illustrate one major cause of poor self-management: Rules often fail to control behavior if they describe contingencies with outcomes that are too small, though of cumulative significance.

There is one other major cause of poor self-management: Rules often fail to control behavior if they describe contingencies with significant but improbable



outcomes. For example, Dora continues to shoot heroin with shared needles, even though she knows she might get AIDS from one of them. But the probability of getting AIDS from any single instance is too small to control her behavior.

## Ineffective Natural Contingency Reinforcement

|  |  |
|--|--|
| <u><b>Before</b></u><br>Dora has no<br>high.       | <u><b>After</b></u><br>Dora is high.   |
| <u><b>Behavior</b></u><br>Dora does<br>drugs once. |  |
| probability of<br><b>AIDS</b>                      | <u><b>After</b></u><br>Dora has a<br>slightly<br>higher<br>probability of<br>AIDS. |

## Punishment"

We can summarize our position as follows: Poor self-management results from poor control by rules describing outcomes that are either too small (though often of cumulative significance) or too improbable. The delay is not crucial.

Victim Blaming. We should not make the mistake of blaming the victim: True, Dora can not get her behavior of searching for a job under the control of the natural contingencies so that she will succeed; but that does not mean she does not want a job. And true, Debby can not get her behavior of searching for her references and writing her dissertation proposal under the control of the natural contingencies so that she will succeed; but that does not mean she does not want a Ph.D. degree. Dora and Debby care, and I hope the present analysis provides a viable option to victim blaming, a reinforcing activity not limited to nonbehaviorists.

## **THE SOLUTION: PERFORMANCE MANAGEMENT CONTINGENCIES**

### **Traditional, Ineffective Performance Management Contingencies Designed to Increase Performance**

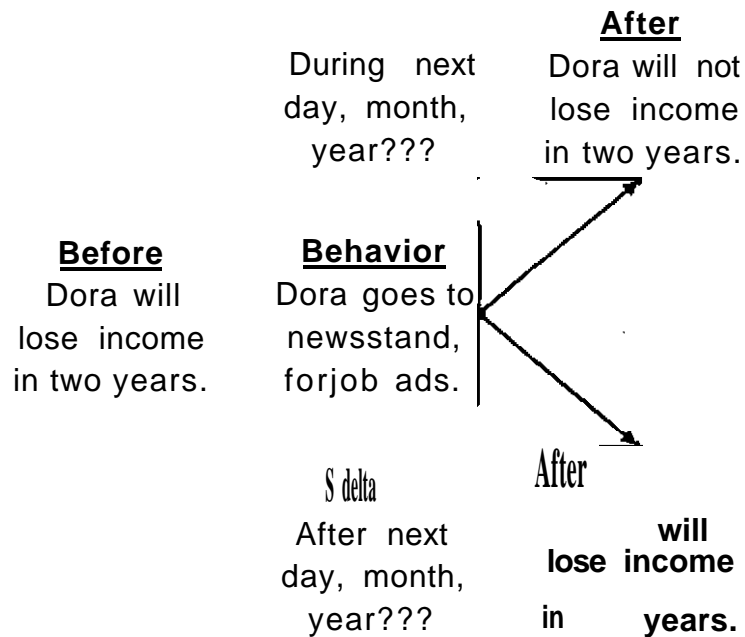
One type of ineffective performance management contingency, especially legal contingencies, often places severe consequences on failure to perform large tasks. Or more correctly, ineffective performance management contingencies often require the completion of a large task to avoid a severely aversive outcome. Because of the size of the task and the delay of the outcome to be avoided, such contingencies are usually indirect-acting, rule-governed analogs to avoidance contingencies.

The required task is often too large to be a reinforceable response unit, as it usually has many gaps greater than 60 seconds. For example, Dora needs to find a job before she gets kicked off welfare. Debby needs to complete her dissertation before she gets kicked out of grad school. And Dirk needed to publish a horrendous number of articles and submit a horrendous number of grant proposals before he was kicked out of his tenure-track position. They must do those things, but it is unclear just when they really need to get started, just when they need to make that first reinforceable response.

To understand why these performance management contingencies are ineffective, we must stay at the molecular level of the reinforceable response unit; for example, instead of Dora's finding a job, we should look at Dora's leaving her apartment to pick up a newspaper. Now, there is a deadline for leaving her apartment: Dora must leave her apartment in time to do all of the remaining tasks that will lead to her reliably finding a job before the two years are up; otherwise, she will have no income. But it is not clear just when that deadline occurs. Can she wait a day, a week, a month, or a year before she will not have enough time left to find a job? In other words, how long will it take her to find a job? The crucial issue is, when should she start worrying that, if she doesn't get moving, she won't have enough time to find a job before she is off welfare and in even more horrendous financial trouble.

**The problem with this description of the contingency is that it fails the dead-man test—if a dead man can do it, it ain't behavior. And, if a dead man can't do it, then it is behavior. Dead men always fail to perform large tasks, so that's not a description of behavior. But it may be a less arcane place to start.**

## Ineffective Performance-Management Contingency

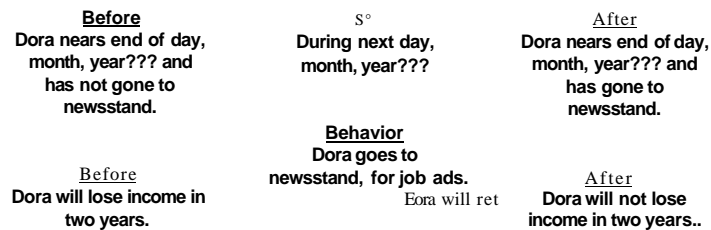


Deadlines in such analog avoidance contingencies are discriminative stimuli, during which the contingency is in effect. Once the deadline has past, the response will no longer avoid the aversive event.

According to the two-factor theory of avoidance, avoidance contingencies control behavior only if there is a supporting escape contingency (Mower, 1947).

## Ineffective Performance-Management Contingency

### Escape



### Analog to Avoidance

## MALOTT

How does the before condition in these supporting escape contingencies acquire its learned aversiveness? Through a verbal analog to pairing with the aversive outcome that the avoidance response would avoid.

### Ineffective Verbal Analog to Value-altering Pairing

Dora **nears** end of day, month, year???  
and has **not** gone to newsstand.

Dora **will** lose income.

Dora **nears** end of day, month, **year???**  
and **has** gone to newsstand.

2 yrs

Dora may **not** lose income.

This is a verbal, rule-governed analog to a direct-acting pairing procedure, because the pairing would not be immediate (the two stimulus conditions would not occur within 60 seconds of each other). And, in fact, the pairing would not even have occurred before it was too late. That is why it is a verbal, rule-governed analog. But analog pairing can work quite well with verbal human beings. The delay between the conditions being paired is not a problem.

Unfortunately, however, there is a problem; this pairing procedure will not work; it will not establish as a learned aversive condition the failure to go to the newsstand combined with proximity to the vague deadline. Why? Because the deadline is too vague. There is no specific time when it will be too late to avoid the loss of welfare. So there is no specific time whose proximity (combined with failure to go to the newsstand) will be aversive. So there is no aversive before condition that going to the newsstand will escape. So there is no escape contingency that will support the avoidance response of going to the newsstand. So Dora will lose her welfare support in two years. Dora has too much leeway, too much opportunity for procrastination.

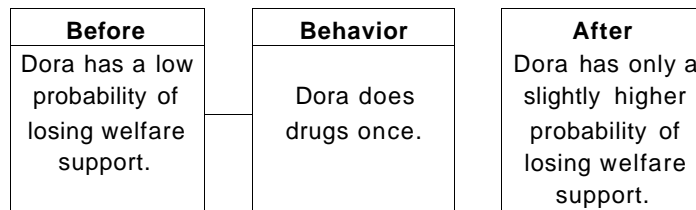
The same analysis applies to Debby's procrastination and Duke's procrastination and most ineffective performance management contingencies. The problem with traditional, institutional performance management contingencies is that the responses specified in the contingencies are too large (e.g., find a job), and thus the deadlines for the reinforceable response units are too vague (e.g., sometime within the next two years). These ineffective performance management

contingencies are little better than the ineffective natural contingencies they were designed to supplement.<sup>7</sup>

### Traditional, Ineffective Performance Management Contingencies Designed to Decrease Performance

The other type of ineffective performance management contingency, especially legal contingencies, often places severe, low probability consequences on the occurrence of undesirable behavior. For example, if Dora is caught using illegal drugs, she is kicked off welfare. The problem with this as a performance management contingency<sup>8</sup> is that the probability of her being caught, and then kicked off welfare is too low to effectively control the frequency of her drug use.

#### Ineffective Performan-Management Contingency



<sup>7</sup> Mattaini: How will readers who did complete dissertations and did get tenure, without performance managers, interpret this?

Malott: What they should do is fall on their knees and thank the lord for having been born unto a Jewish mother, a Confucian mother, or the somewhat rarer gentile equivalent, someone who was never quite satisfied with their performance, no matter how hard they tried, someone who would pour a pitcher of ice water on them if they did not get out of bed on the first wake-up call, who insisted that construction projects be finished, not by the deadline but a week before, who forced the aspiring young athlete to shoot 500 baskets a day, all of which was the case with one of the most productive members of our department. Or someone whose mother said to her father, "For the first time in her life, our sweet little sixth-grade daughter just got less than 95% in one of her courses, which means she will not be exempt from the final exams; so don't say anything to her because she's very upset." And whose father then went to the daughter and said, "So, you're going to have to take finals with the rest of the donkeys, huh?" And who spent the next three days crying in her bedroom, before she went on to become the most successful OBM consultant I know. The contingencies controlling the behavior of the scholar and the consultant have little to do with either the natural contingencies or the performance management contingencies we have been discussing. They are a much more subtle form of performance management contingencies, an inferred, direct-acting contingency: The scholar is always looking over his shoulder for fear his mother is going to dump a pitcher of ice water on him. And the consultant lives in constant fear that her father will call her a donkey. In other words, there is really only one secret of highly successful people: They are compulsive neurotics. The rest of us sit on the couch in our undershirts, scratching our belly, watching quiz shows, drinking beer, belching, and saying, "This is the good life." In my humble opinion.

<sup>8</sup> Ineffective performance management contingencies can still be effective in providing the implementers of such contingencies with the satisfaction of knowing that the recipients of the contingencies have been made to suffer for their sins. Vengeance is a powerful reinforcer.

## MALOTT

Of course, if Dora uses illegal drugs often enough, she may likely be caught and be kicked off welfare. But the probability that she will be caught sooner or later exerts little control over her behavior. It is the probability that she will be caught after the next instance of drug use that is the major determinant of her behavior. And increasing the severity of an improbable outcome is of little value.

### Effective Performance Management Contingencies

Essentially all performance management contingencies with normal, verbal adults use instrumental outcomes, rather than hedonic outcomes. No one will put an m&m (hedonic reinforcer) in Dora's mouth each time she finds a job ad nor in Debby's mouth each time she finds a reference. And finding one job ad or finding one reference is only an instrumental reinforcer (instrumental toward getting a job or a Ph.D.); and such instrumental reinforcers do not seem to be very reinforcing, in and of themselves. This distinction is important because Dora and Debby and the rest of us need deadlines to prevent terminal procrastination if our behavior is to be effectively controlled by rules describing contingencies with instrumental outcomes. We do not need deadlines when our behavior is to be controlled by rules describing hedonic outcomes.<sup>9</sup>

Furthermore, the response unit specified in the performance contracts needs to be much smaller than the molar response unit needed to achieve significant outcomes (e.g., finding a job or writing a dissertation). However, the performance-contract-specified response unit need not be as small as a reinforceable response unit with only minimal gaps.

### Debby's Deliverance, the Details

Bobby Behavior: "How about this for your first subgoals: Tomorrow, you work at least two hours on your dissertation and email me at least five relevant references by 10:00 P.M.?"

A *hedonic outcome* is a reinforcer or aversive condition that controls behavior regardless of its utility. All unlearned outcomes are hedonic and some learned outcomes are hedonic. An *instrumental outcome* is a reinforcer or aversive condition only if it leads to a hedonic outcome. Under some circumstances the click and light flash of an operating food magazine can be a hedonic reinforcer for a pigeon in a Skinner box, even though, under those circumstances, that click and flash are not discriminative for a back-up food reinforcer. Similarly, under some circumstances, learned imitative reinforcers can be hedonic for children, even though specific instances of those reinforcers are never paired with hedonic reinforcers (Baer, Peterson, & Sherman, 1967; Malott, Whaley, & Malott, p 228-229, 1997). In everyday life, approval and disapproval of the passing stranger are hedonic outcomes, even though we will never interact with that person beyond the present fleeting instance. However, a particular currency is generally an instrumental reinforcer because it loses essentially all value when the currency changes and it can no longer be exchanged for hedonic reinforcers.

## PERFORMANCE MANAGEMENT AND WELFARE REFORM

Debby: Uh huh.

Bobby B.: And for your general performance management contract, every time you fail to meet your hours or task subgoals, you lose one point from the total required for the week.

Debby: Uh huh.

Bobby B.: And if you accumulate two weeks below 90%, your grade for your one-credit dissertation course goes down one letter grade.

Debby: Ouch.

Bobby B.: So you're working with daily deadlines to avoid the loss of points which can turn into the loss of a good grade at the end of the semester. Will that work?"

Before 8:00 P.M.

### Before

Debby will be significantly closer to a poor grade at the end -of the semester because of loss of points for not searching for these references,

### Behavior

Debby goes to the library in search of references.

### After

Debby will **not** be significantly closer to a poor grade at the end of the semester because of loss of points for not searching for these references.

## Analog to Avoidance

Debby: "I sure hope so; I feel like I shouldn't be sitting here but should be off in search of my references right now."

### Dora's Deliverance, the Details

Debby: "How about this for your first subgoals: Tomorrow, you work at least two hours on your job search and call me with at least five relevant job ads by 10:00 P.M.?"

Dora: Uh huh.

Debby: And for your general performance management contract, every time you fail to meet your hours or task subgoals, you lose one point from the total required for the week.

Dora: Uh huh.

## MALOTT

Debby: And if you accumulate two weeks below 90%, you will lose one week's welfare support.

Dora: Ouch.

Debby: So you're working with daily deadlines to avoid the loss of points which can turn into the loss of support the week after your second week of failure. Will that work?"

Dora: "Oh, my. You bet it will."

### Deliverance Analysis

Although such performance management contingencies effectively control the behavior of most verbal human beings, they are really only indirect-acting, rule-governed analogs to the direct-acting avoidance contingencies of the Skinner box. In other words, the end of the semester is too delayed for the avoidance of the poor grade to directly support the avoidance response. Even with verbal human beings who can state the rule describing the indirect-acting analog contingency, there must be direct-acting contingencies that support this rule-governed behavior. In the present case, a direct-acting escape contingency would support the indirect-acting rule-governed analog to avoidance.

## Escape

Before 8:00 P.M.

### Before

Debby experiences proximity to 8:00 P.M. **with no** progress toward getting her five references and her two hours of work.

### Behavior

Debby goes to the library in search of references.

### After

Debby experiences the **less** aversive condition of proximity to 8:00 P.M. **with** progress toward getting her five references and her two hours of work.

The escape and avoidance contingencies can then combine to illustrate the two-factor theory of avoidance. The only difference from the traditional application of the two-factor theory is that, in the present case, the avoidance contingency is an indirect-acting analog rather than a direct-acting contingency, as is needed with nonverbal animals. (With nonverbal animals, there is a direct, contiguous pairing between the avoided aversive condition [after condition] and the escaped warning stimulus [before condition]. For example, in classical



avoidance, the buzzer is soon followed by an electric shock. Through this pairing, the buzzer becomes a learned aversive warning stimulus.)

However, in Debby's case, the pairing is too delayed for the before condition of the escape contingency to become a learned aversive warning stimulus simply through the pairing per se with the after condition of the avoidance contingency. Instead, a verbal statement describes the relation between the before condition of the escape contingency (no progress on her thesis plus proximity to the weekly deadline) and the after condition of the avoidance contingency (a poor grade at the end of the semester). This statement constitutes a verbal pairing process, analogous to the direct pairing of the buzzer and the shock in the Skinner box. And such analog pairing procedures can be effective with verbal human beings.

## Verbal Analog to Value-altering Pairing

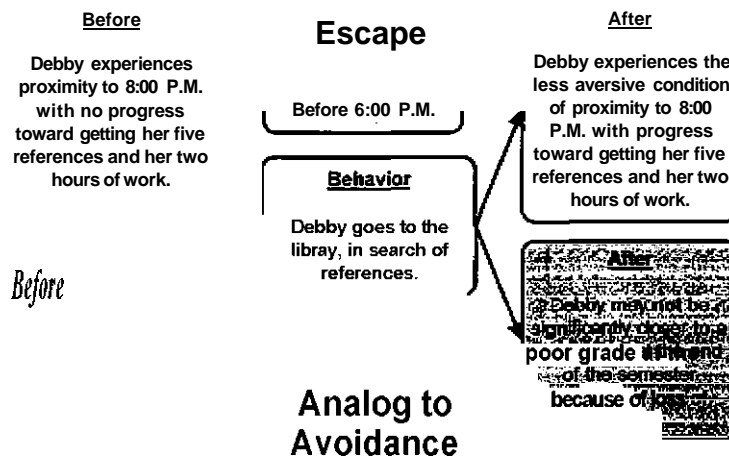
|   |               |   |
|---|---------------|---|
| <p>Debby experiences proximity to 8:00 P.M. with<br/>no progress toward getting her five references<br/>and her two hours of work</p> | <p>Months</p> | <p>Debby will be significantly closer to a poor<br/>grade at the end of the semester because of<br/>loss of points.</p> |
|---|---------------|---|

These components combine in accord with the two-factor theory of avoidance.

## Two-Factor Theory of Avoidance

### Verbal Analog to Value-altering Pairing

|  |  |
|--|--|
| <p>Debby experiences proximity to 8:00 P.M. with no progress toward getting<br/>her five references and her two hours<br/>of work.</p> | <p>be significantly closer to a<br/>poor grade at the end of the semester<br/>because of loss of points.</p> |
|--|--|



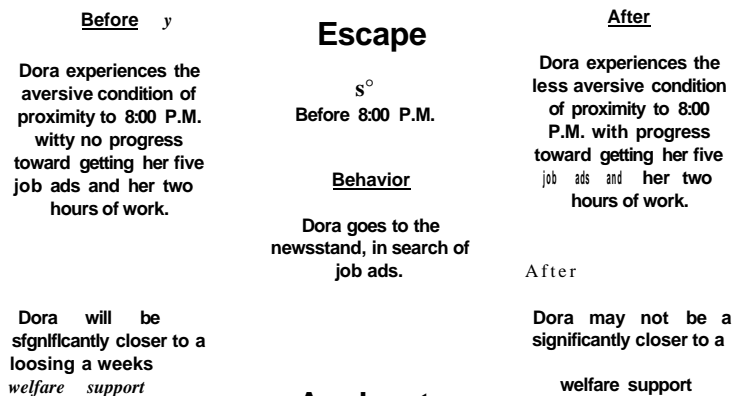
## MALOTT

A similar analysis applies to the effective performance management contingency Debby set up for Dora:

### Two-Factor Theory of Avoidance

#### Verbal Analog to Value-altering Pairing

Dora experiences proximity to 8:00 P.M. with no progress toward getting her five job ads and her two hours of work. Dora will be significantly closer to losing a week's welfare support.



#### Analog to Avoidance

#### Dora's Drug Deal Deliverance

Debby: I've managed to cut a special deal with the judge and the head of our welfare agency. You get one more chance, but we're going to be on you like white on rice. You've got to produce a clean urine sample every day, seven days a week. Any time you come within a city block of heroin, your urine sample will show it. You've got to stay squeaky clean. If not, you're permanently off welfare and also into the Women's Detention Center.

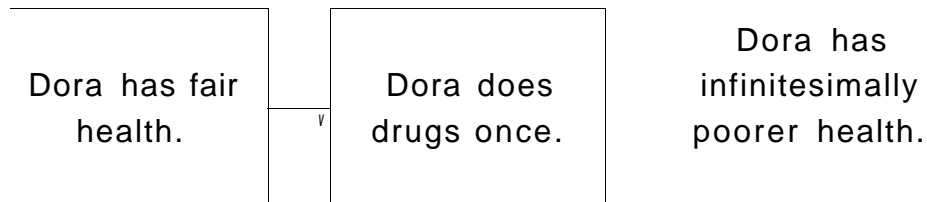
Dora: That's pretty rough.

Debby: Yeah, it is; but you know it's, the best deal in town. It's the best I could get for you. And also, you know it's going to keep you off heroin.

Dora: Yeah, it'll do that alright. And I guess it's worth the hassle.

## The Three-Contingency Model of Performance Management

### Ineffective Natural Contingency



### Performance-management Contingency

|  |                          |  |
|--|--------------------------|--|
| Dora is on<br>welfare and out<br>of detention. | Dora does<br>drugs once. | Dora is<br><b>definitely</b> off<br>welfare and in<br>detention. |
|--|--------------------------|--|

### Inferred Direct-acting Contingency

|  |                          |   |
|--|--------------------------|---|
| Dora doesn't<br>fear being off<br>welfare and in<br>detention. | Dora does<br>drugs once. | Dora does fear<br>being off<br>welfare and in<br>detention. |
|--|--------------------------|---|

This effective performance management contingency differs from the traditional, ineffective ones only in that the probability of the outcome is 1.0 rather than some extremely low probability. Our behavior is much more reliably controlled by rules describing outcomes that are small but probable than

## MALOTT

outcomes that are large but improbable, always keeping in mind that we are talking about the probability of the outcome for each single instance of the response and not about the probability that sooner or later the outcome will occur (e.g., losing welfare and entering detention). In Dora's case, the outcome is severe, because that might be the only politically acceptable option available to a convicted felon; but from a performance management perspective, the outcome could have been much less severe; and yet the rule describing the contingency still would have controlled her behavior.

### THE THREE-CONTINGENCY MODEL OF PERFORMANCE MANAGEMENT

The three-contingency model of performance management is a radical-behavioral approach that takes into consideration the role of verbal behavior (language) in the analysis of contingencies controlling and failing to control human behavior (Malott, 1993). In the preceding diagram of the three-contingency model of performance management applied to drug use, we not only included the ineffective natural contingency and the effective performance management contingency, but also the third contingency, the direct-acting theoretical contingency. We need the direct-acting theoretical contingency to explain why the indirect-acting performance management contingency works, why it controls behavior. In Dora's case, much more than 60 seconds would elapse between her injection of heroin and her arrest, loss of welfare benefits, and incarceration. This delay of hours or days means that the aversive outcomes of arrest, etc., would be too delayed to punish her using heroin. So a more direct-acting contingency is needed, thus the inferred fear of the loss of welfare and freedom (i.e., the thoughts of such a loss) which would suppress Dora's behavior leading to the use of heroin so that the heroin use, itself, would not occur. Traditional, methodological behaviorists usually object to such inferences, but such inferences seem less an evil than trying to explain the effectiveness of the performance management contingency by treating it simplistically, as if it were a direct-acting punishment contingency rather than an indirect-acting, rule-governed analog to a punishment contingency.

We can apply the complete three-contingency model of performance management not only to contingencies designed to reduce performance (i.e., illegal drug use) but also to contingencies designed to increase performance.

## The Three-Contingency Model of Performance Management

### Ineffective Natural Contingency

|   |   |  |
|---|---|--|
| Dora has no opportunity to get job ads. | Dora goes to the newsstand, in search of job ads. | *v Dora has an opportunity to get job ads. |
|---|---|--|

### Performance-management Contingency

|  |   |  |
|--|---|--|
| Dora <b>will</b> be significantly closer to losing a week's welfare support. | Dora goes to the newsstand, in search of job ads. | Dora <b>will not</b> be significantly closer to losing a week's welfare support. |
|--|---|--|

### Inferred Direct-acting Contingency

|   |   |  |
|---|---|--|
| Dora fears losing a week's welfare support. | Dora goes to the newsstand, in search of job ads. | Dora has less fear of losing a week's welfare support. |
|---|---|--|

Consider the before and after conditions of Dora's inferred direct-acting contingency. I describe them with summary expressions like *Dora fears losing a week's welfare support* rather than more cumbersome expressions like *Dora experiences the aversive condition of proximity to 8:00 P.M. with no progress toward getting her five job ads and her two hours of work*. However, it should be understood that the before and

## The Three-Contingency Model of Performance Management

### Ineffective Natural Contingency

Debby has no opportunity to get a reference.

Debby goes to the library in search of references.

Debby has an opportunity to get a reference.

### Performance-management Contingency

Debby **will** be significantly closer to a poor grade at the end of the semester.

Debby goes to the library in search of references.

Debby **will not** be significantly closer to a poor grade at the end of the semester.

### Inferred Direct-acting Contingency

Debby fears a poor grade.

Debby goes to the library in search of references.

Debby has less fear of a poor grade.

after conditions of this contingency are the same as the before and after conditions of the earlier escape contingency specified in the two-factor diagram. Similarly, Debby's inferred direct-acting contingency in the following three-contingency diagram, is the same as in her previous two-factor diagram.

## PERFORMANCE MANAGEMENT AND WELFARE REFORM

### CONCLUSIONS

In conclusion, the three-contingency model of performance management suggests contingencies that could provide an effective basis for welfare reform. This model also suggests an analysis of the performance management contingencies of traditional efforts at welfare reform; and, in turn, that analysis suggests such traditional reform will not effectively increase functional behavior such as job finding nor decrease dysfunctional behavior such as drug abuse.

### REFERENCES

- Baer, D. M., Peterson, R. F., & Sherman, J. A. (1967). Development of imitation by reinforcing behavioral similarity to a model. *Journal of the Experimental Analysis of Behavior*, 10, 405-415. <http://dx.doi.org/10.1901/jeab.1967.10-405>
- Malott, R. W. (1993, October). The three-contingency model applied to performance management in higher education. *Educational Technology*, 33, 21-28.
- Malott, R. W. & Garcia, M. E. (1991). The role of private events in rule-governed behavior. In L. J. Hayes & P. Chase (Eds.), *Dialogues on verbal behavior* (pp. 237-254). Reno, NV: Context Press.
- Malott, R. W. , Whaley, D. W., & Malott, M. E., (1997) *Elementary principles of behavior* (third edition). Upper Saddle River, NJ: Prentice Hall.
- Mower, O. H. (1947). On the dual nature of learning—a reinterpretation of "conditioning" and "problem solving." *Harvard Educational Review*, 17, 102-148.
- Nevin, J. A. (1998). Contingencies of welfare reform. *Behavior and Social Issues*, 8, 101-108. <http://dx.doi.org/10.5210/bsi.v8i2.323>