*ITEM PREFERENCE IN A TOKEN ECONOMY WARD STORE*ROBERT S. RUSKIN² AND ROGER F. MALEY

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Token spending by 20 schizophrenic patients was monitored over a six-month period. It was found that: (1) token expenditures for cigarettes and "edibles" far surpassed other store item categories; and (2) percentage increases in token expenditures were greatest for categories of items relating to appearance and grooming, strongly suggesting that store purchasing patterns over time may provide an index of program effectiveness.

Token economy systems used to generate viable contingency management in the treatment of institutionalized patients are becoming more and more popular. The procedures involved in the implementation and management of token economies have been described in detail (Ayllon and Azrin, 1968; Atthowe and Krasner, 1968; Winkler, 1971). It is becoming customary for token economy systems to utilize ward stores as a means of providing back-up reinforcers for tokens earned by desirable behavior. However, there is at present no literature on patient preferences among the various reinforcers used in ward stores and, consequently, no guidelines for stocking stores with preferred items. It is also probable that patient preferences, in terms of the items they purchase, could be used to evaluate the treatment program.

The present study sought (a) to determine patient preferences for ward store items in a token economy system, and (b) to determine changes in preference for different items over an extended period of time.

METHOD

Ward store item sales in a token economy ward at Weston State Hospital, Weston, West Virginia were monitored over a six-month period. The ward store was well stocked and the patients could buy anything they chose with their tokens.

The token economy was modelled after Ayllon and Azrin (1968). Tokens were awarded or lost as a consequence of specific patient-emitted behaviors on the ward. A more complete analysis of the individual behaviors that were reinforced, as well as their specific consequences, is described by Maley (1972).

Subjects

Twenty female patients, diagnosed as chronic schizophrenics, had been institutionalized at least 3 yr. They ranged in age from 22 to 48 yr, with a mean age of 37 yr.

RESULTS

The items purchased, as well as token cost per item are presented in Table 1. Items were grouped according to their functional use; those items falling into none of the first six categories were placed into the "miscellaneous" category.

Figure 1 shows the number of tokens spent on items in each of the seven categories over the six-month period. There is a constant rise in

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Table 1
Ward Store Items Bought Over A Six-Month Period

<i>Category</i>	<i>Item</i>	<i>Number Sold</i>	<i>Token Cost Per Item</i>	<i>Total Tokens Spent</i>
<i>Edibles</i>	Candy bars	3881	5	19,405
	Penny candy	6620	1	6620
	Packs of life savers	163	5	815
	Cups of coffee	460	5	2300
	Bags of nuts	400	15	6000
	Packs of chewing gum	106	5	530
	Individual cookies	200	3	600
	Packs of crackers	526	5	2630
				<u>36,900</u>
<i>Tobacco</i>	Packs of cigarettes	886	35	24,410
	State tobacco (bags of tobacco sufficient to make 20 cigarettes)	903	20	18,060
				<u>42,470</u>
<i>Clothing</i>	Sleeping robe	2	400	800
	Dress (rent daily)	60	10	600
	Pairs of shoes	46	50	2300
	Pairs of socks	14	10	140
	Pairs of nylon hose	10	15	150
				<u>3990</u>
<i>Personal Accessories</i>	Pairs of ear rings	104	30	3120
	Single hair ribbon	10	2	20
	Misc. jewelry	70	5	350
				<u>3490</u>
<i>Grooming Aids</i>	Tooth brush	146	10	1460
	Tubes of toothpaste	120	5	600
	Cans of deodorant	45	10	450
	Bars of soap	320	5	1600
	Bottles of mouth wash	40	10	400
	Hand mirrors	10	20	200
				<u>4710</u>
<i>Cosmetics</i>	Lipsticks	27	20	540
	Nail polish	21	10	210
	Powder	41	10	410
	Cold Cream	30	20	600
	Comb	104	5	520
				<u>2280</u>
<i>Miscellaneous Items</i>	Kleenex	62	20	1240
	Envelopes	40	3	120
	Writing paper	20	15	300
	Billfold	10	50	500
	Paintings	10	65	650
	Radio (daily rent)	15	10	500
				<u>3310</u>
OVERALL TOTAL				<u>97,150</u>

Fig. 1. Total Tokens Spent Over Monitored Six-month Period.

spending for all categories of items and this, of course, reflects increased patient earning power.

Proportional token increases from the first to sixth month are presented in Table 2. Proportional increases over the six-month period exceeded 100% in all but the "tobacco", "edibles", and "miscellaneous" categories.

DISCUSSION

The present data indicate that tobacco and edibles will be the major categories of purchases in a token economy ward. Perhaps this is explained simply by the immediacy of reinforcement when consuming these items, compared to

Table 2

Proportional Token Increases From the First to the Sixth Month of the Monitored Period

<i>Category</i>	<i>Net Token Increase From the First to Sixth Month</i>	<i>Average Number of Tokens Spent Per Month</i>	<i>% of Token Increases From First to Sixth Month</i>
Tobacco	105	7078	1
Edibles	600	6150	9
Personal Accessories	825	581	142
Clothing	703	665	105
Grooming Aids	1810	785	231
Cosmetics	600	380	158
Miscellaneous	551	437	79

items such as clothing or cosmetics. However, the fact that tobacco and edibles showed very small percentage increases over a six-month time period, while all other categories of reinforcers except "miscellaneous" exceeded a 100% increase, suggest the desirability of using a wide range of back-up reinforcers. It would appear that as patients show improvement, their preferences begin to change and items related to grooming and personal attractiveness become more powerful reinforcers.

The constant rise in tokens spent reflects an increase in the number of tokens earned and, thus, an increase in the amount of adaptive behavior shown by the patients. Consequently, data such as these can be used to evaluate the therapeutic effectiveness of token economy systems.

In conclusion, these data suggest that if one is establishing a token economy for chronic patients and wishes to use the most powerful reinforcers available, he should stock his ward store with cigarettes and edible items. Initially, these items will be about all he needs in the store.

However, as patient's improve, additional items that reflect the patient's growing concern with appearance and grooming need to be added to the store. Store purchasing patterns over time may also provide an index of program effectiveness.

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REVIEWERS' COMMENTS

All three reviewers took exception to some aspects of this article, particularly the authors' conclusions. However, their comments explicated several issues relevant to evaluating this end of a token economy. We would like others who begin gathering systematic data on item preferences for various populations to have the benefit of their discussion of these issues. The author agreed to limit his revision to minor technical points and to allow us to publish excerpts from the reviewers' comments with this technical article.