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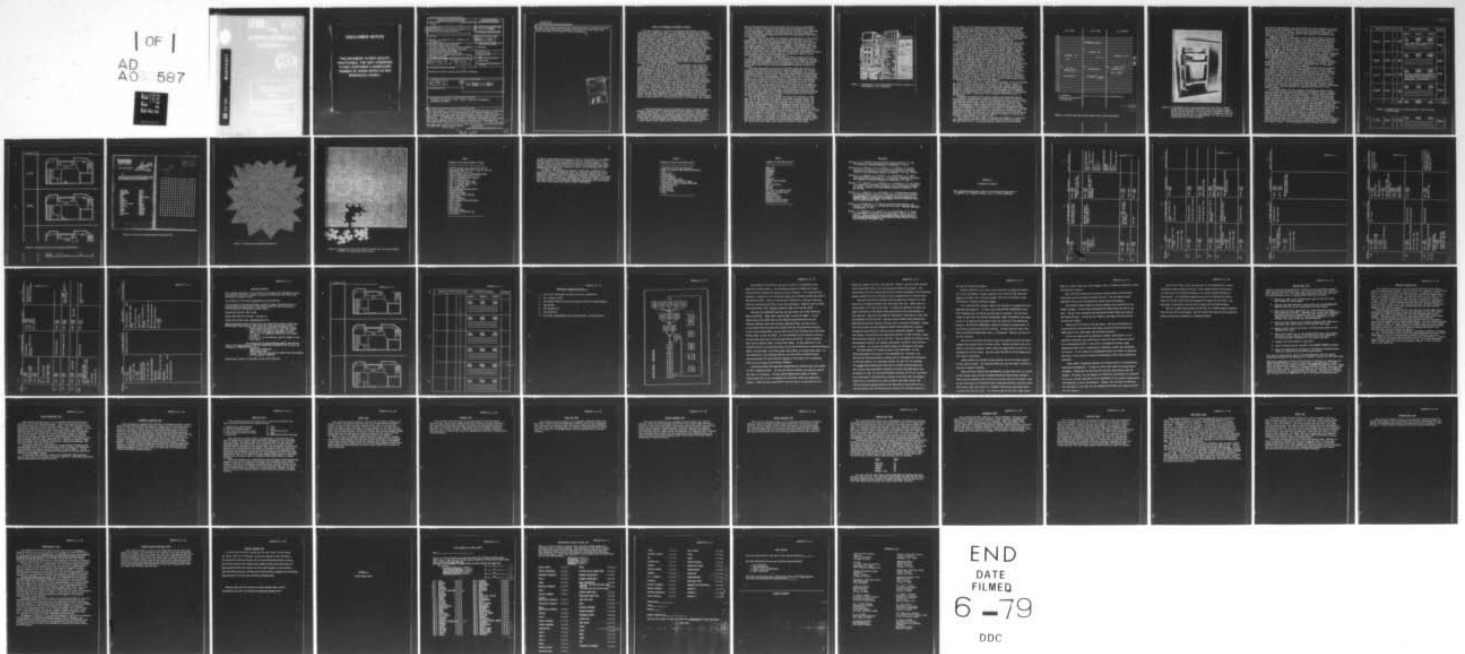
JOHNS HOPKINS UNIV BALTIMORE MD DIV OF BEHAVIORAL BIOLOGY F/6 5/1  
METHODOLOGICAL AND OPERATIONAL ASPECTS OF PROGRAMMED ENVIRONMEN--ETC(U)  
APR 79 H H EMURIAN; C S EMURIAN; F R SCHMIER N00014-77-C-0498

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER TR #3	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Methodological and Operational Aspects of Programmed Environment Research.		5. TYPE OF REPORT & PERIOD COVERED Technical Report
7. AUTHOR(s) Emurian, H.H., Emurian, C.S., Schmier, F.R. and Brady, J.V.		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS Division of Behavioral Biology The Johns Hopkins University School of Medicine 720 Rutland Avenue, Baltimore, MD 21205		8. CONTRACT OR GRANT NUMBER(s) N00014-77-C-0498
11. CONTROLLING OFFICE NAME AND ADDRESS Office of Naval Research (Code 452) Organizational Effectiveness Research Programs Arlington, VA 22217		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS NR170-855
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) 11 16 Apr 79 (12) 62 p1		12. REPORT DATE April 16, 1979
		13. NUMBER OF PAGES 59
		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) 410 689 Approved for public release, distribution unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) 14 TR-3 (10) H. H. /Emurian, C. S. /Emurian, F. R. /Schmier J. V. /Brady		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Programmed environment; small groups; behavioral programming; continuous residence.		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This paper presents a narrative and annotated description of several unreported but significant aspects of a methodology which has been perfected over the past several years for conducting research studies within a laboratory environment which is programmed for continuous residence by small groups of human volunteers. The information presented in this paper complements the more formal and in some important ways less complete, presentations of the methods and procedures which have evolved over the past several years. The intent has been		

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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

To focus upon the many unreported but significant details associated with such studies so that behavioral programming procedures will more readily fall within the interest and scope of other investigators.

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## NOTES ON PROGRAMMED ENVIRONMENT RESEARCH

This paper presents a narrative and annotated description of several unreported but significant aspects of a methodology which has been perfected over the past several years for conducting research studies within a laboratory environment which is programmed for continuous residence by small groups of human volunteers. The design features of this laboratory have been described within two papers (Brady, Bigelow, Emurian, and Williams, 1974; Bigelow, Emurian, and Brady, 1975), and behavioral programming procedures along with the results of several observations and experiments have appeared within the psychological literature (Brady and Emurian, in press; Emurian, Emurian, and Brady, 1978; Emurian, Bigelow, Brady, and Emurian, 1975; Emurian, Emurian, Bigelow, and Brady, 1976). Nowhere, however, have the many incidental and anecdotal details been presented, details which are absolutely essential for any research program and without which the laboratory facility would almost certainly stand vacant. Assuming some prior familiarity with the laboratory facility and the behavioral programming procedures, these details, then, will be described from the perspective of staff members who carry the responsibility of implementing experimental design plans which are independently formulated by several senior investigators.

The core staff consists of one full-time investigator, two full-time research assistants, and several part-time investigators. These numbers are supplemented by at least six part-time assistants, almost all of whom have been undergraduate students. (Only one student has been a psychology major with career goals in psychology.) The part-time assistants help to monitor the experiments, and they are rarely needed at other times. Several days prior to the start of an experiment, these "monitors", as they have come to be known, meet with the two full-time assistants to review the design protocol and to arrange monitoring schedules.<sup>1</sup> To provide around-the-clock supervision of an experiment, there are three 8-hour shifts per day: 8:30 AM to 4:30 PM, 4:30 PM to 12:30 AM, and 12:30 AM to 8:30 AM. These times were chosen for the monitors' convenience of using a free shuttle service between a local college, where most monitors attend, and the inner-city clinic where the laboratory is located. The two full-time assistants always occupy the 8:30 to 4:30 shift, and the part-time monitors the remaining shifts. The part-time monitors decide among themselves how to schedule coverage of the various shifts, and there has never been a serious problem covering even the overnight period. In fact, much to our surprise and relief, if not dismay, many students

1. The following people have participated as monitors: Joseph F. Abate, George E. Bigelow, Peter S. Bigham, Janet R. Brice, Roger Cox, Christopher J. Danielewski, Cheryl A. Davis, David J. Francis, Charles H. Gaskins, Jr., Lofs Imber, Robn Hargrove, E. Katherine Hodges, Dennis Leone, Jerry Locklee, Thomas Locraft, Joan Marie Morton, Gregory Orloff, Felicia Pharr, Janice A. Plotczyk, Ellen Reichenbach, Lisa Reichenbach, Anthony F. Rock, Margaret C. Ross, Sandra Rossie, Sharon White, Peter Whitehouse, and Duen Yen.

show a strong preference for the overnight time. This may be attributable, at least in part, to the mutual understanding that one monitor may sleep if only one subject is awake in the program, and to the best of our knowledge, this is what happens. Monitors are paid by the hour, and the remuneration is sadly nominal because without the dedication of these people, there would never be an experiment.

Monitors vary in the number of consecutive days they wish to work during an experiment. Some monitors insist on working the same shift every day, whereas others work only several experimental days, and they vary the shifts. This results in a welcome flexibility of response if the schedule needs to be changed suddenly in case of sickness or whatever. An experiment has never been terminated because of scheduling constraints or lack of personnel, and only very rarely has a core staff member had to substitute for a vacancy on one of the other shifts. Being a monitor has not been a detrimental influence on the students. Many of them have gone on to graduate or medical schools after having worked with us for several years.

For three-person studies, two monitors are always on duty within the control room which is located in a room adjacent to the laboratory. The work is typically divided between a "left-side monitor" and a "right-side monitor", each of which has evolved distinct and complementary roles over the course of the years. Both monitors face the instrumentation consoles presented in Figure 1.

The left-side monitor has the job of observing where the subjects are located in the behavioral program and of granting "permission" for a subject to proceed from one activity to the next. These determinations are made by scanning the several closed circuit television screens which provide selected views of each room in the laboratory. Each subject has a file of small metal cards (5 x 7 in) portraying abbreviations for each activity in the behavioral program. When a subject selects an activity, he displays the corresponding card in the private room at a fixed location which makes it easily visible to the monitor and to the subject himself. The monitor, then, can readily and continuously determine where each subject is located in the program with a single glance, since the screens for the three private rooms are mounted one above the other just above the desk. This inexpensive, flexible, and, in its simplicity, esthetically pleasing method has worked flawlessly throughout dozens of experiments, and it rivals in effectiveness the most complex computer technologies in the laboratory.

The left-side monitor also records the choice of activity on a ruled page divided into three 30-line columns, one column for each subject, and each line is labelled with consecutive minutes of a half-hour period. Had the subject been ineligible for that activity, either failing to have completed the minimum requirements of the immediately preceding activity or inadvertently skipping a sequentially programmed activity, permission for the choice would have been denied by a rapid blink of the room lights which indicates to the subject that an error has occurred. As an example of a correct choice, had subject 1 chosen Health Check at 11:07 AM, the monitor would write H✓ beside 11:07 in subject 1's column. As an example of an incorrect choice, had subject 2 chosen Work Two without having closed his lounge chair used during Food One, the lights would blink when the subject tried to change the activity card, and permission to proceed would thereby be denied until the lounge chair was closed. Each column on the page is wide enough

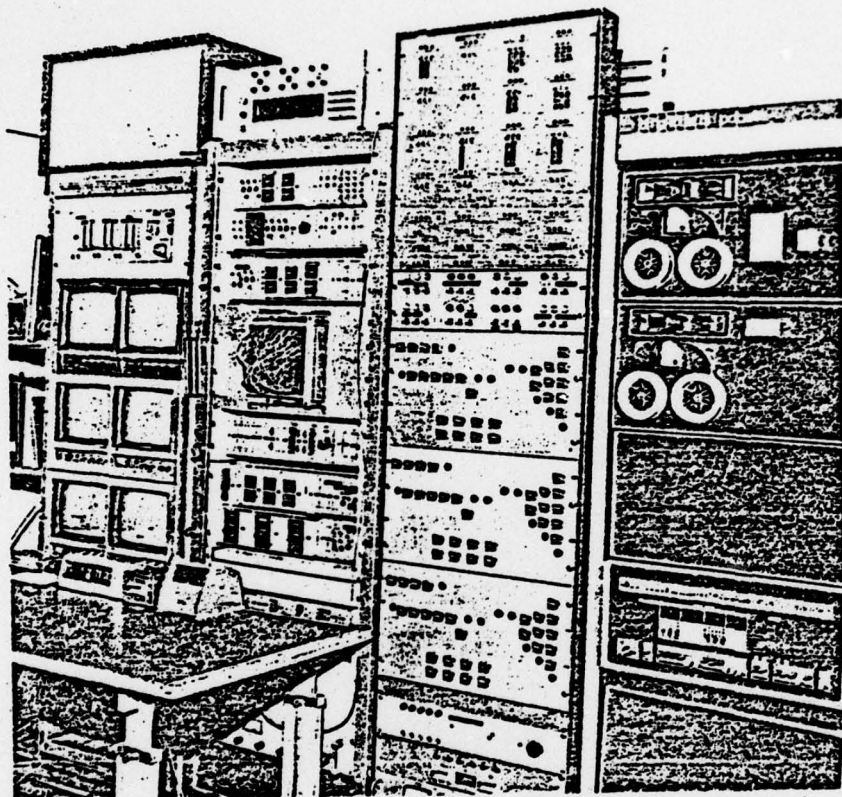


Figure 1. A photograph of the instrumentation consoles located in a room adjacent to the laboratory.

(i.e., about 2 in) for noteworthy events to be entered directly on the page which is changed every thirty minutes. Figure 2 presents one such page of the data records taken from a recent experiment. Usually, only eight hours of pages are kept in a notebook on the monitoring desk at a time. The resulting master log has several important merits: (1) all events associated with an experiment are in one place, (2) a minute-to-minute record of the experiment results with all three subjects side-by-side for comparisons, and (3) the record is not susceptible to data loss from an equipment failure.

The right-side monitor has the job of activating the devices which make resources and tasks available to the subjects in accordance with the rules of the behavioral program. Access to all major resources within the rooms is restricted in the sense that electronic locks prevent resource use until the appropriate activity in the program has been chosen. Figure 3 presents a photograph of the locking mechanisms for one stack of drawers; similar mechanisms are used for all other electronically locked facilities. The electronic locks, which are normally closed, are energized by panel switches on the control consoles (see Figure 1), and the switch array for each room resembles the schematic format of the behavioral program. When the left-side monitor has granted permission for a subject to proceed in the behavioral program, which is implicit unless an error has occurred, the right-side monitor latches the corresponding switch on the console and releases the preceding one. The latched switch unlocks all resources associated with the particular activity. For example, the switch associated with Manual Behavior unlocks the corresponding drawer and activates the hot and cold water in the kitchen. Since each latched switch is illuminated, the right-side monitor also is able to observe continuously where each subject is located in the behavioral program. The switch closures in the array also activate computer interface cards which permit on-line per-unit-time (e.g., every 10 min) "event records" of the progression of activities for each subject.

It is our belief that it is a good policy to minimize, if not to eliminate, the extent to which subjects have direct control over resource access, in the sense of having the electronics initiated by them, because great havoc can occur if subjects are rapidly and simultaneously advancing through the behavioral program with procedural errors. The maintenance of environmental control by the experimenters is compatible with the maintenance of contingency control of a subject's repertoire, and it prevents adventitious drift in the behavior.

In addition to operating the control console, the right-side monitor also activates a microprocessor controlling the Physical Exercise activity, a minicomputer controlling a multiple task performance battery (Emurian, 1978), digit-bits controlling signal lights to the subjects and a Lindsley lever, and a microprocessor recording physiologically generated data, i.e., heart rate, skin temperature, skin conductance, and frontalis EMG obtained during certain work activities in the program. This monitor also handles all exchanges of materials between the subjects and the experimenters: delivering food, requisitioned items, and music tapes and retrieving trash and urine collection containers. The right-side monitor also operates a teletype to transmit any necessary communications to a subject's CRT.

During social activities, when all subjects are together in a recreation room, both monitors view the closed-circuit television screens surveying the room. Every 5 min, a 10-sec observational sample occurs during which

S 1 / RED	S 2 / BLUE	S 3 / GREEN	
1:00			
1:01			
1:02			
1:03	STOPPED WORK		
1:04			
1:05			
1:06			
1:07			
1:08	COM 9		
1:09			
1:10	COM 7	COM 6	
1:11	66.51		CO
1:12	A		6
1:13			58
1:14			66
1:15			
1:16 *	+	* HV 29	
1:17	LTO (IN) 4	LTO (IN) 2	
1:18	LTO (IN) 3		
1:19		LTO (OUT)	
1:20			
1:21	LTO (OUT) WKS		
1:22	2.5		
1:23			
1:24			
1:25			
1:26			
1:27			
1:28			
1:29			
* UNICOM PASS OUT COLLECTION CONTINUED	→	* UNICOM	

Figure 2. A page of the data records taken from a recent experiment.

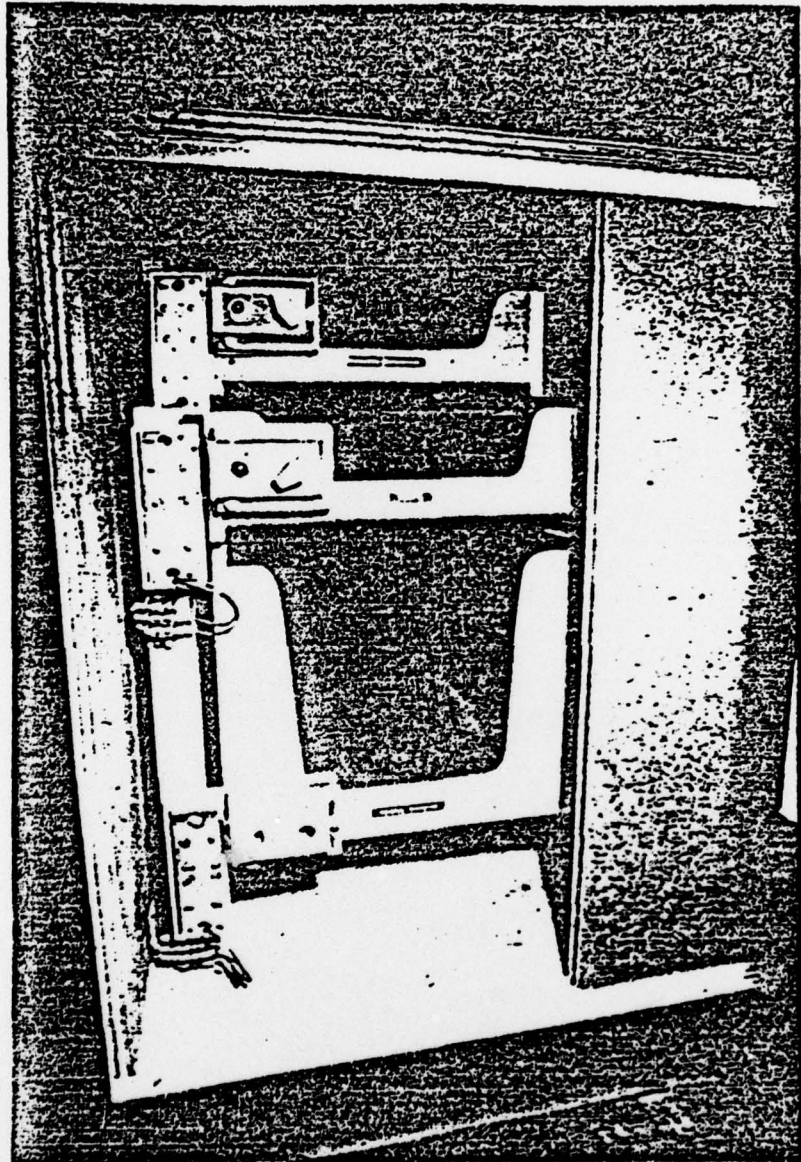


Figure 3. A photograph of the locking mechanisms for one stack of drawers having the following three functions from top to bottom, respectively: Reading activity, Work Two activity, and General Charging. The drawers are "two-way" in that they allow exchange of materials between the subjects and the experimenters, and the locks prevent unauthorized use of their contents.

each monitor independently rates the occurrence of vocal utterances and social games on one form, presented in Figure 4, and scores the subjects' positions in the room for social distance determinations on another, presented in Figure 5. The monitors also take notes of the subjects' conversations, the games they use, and their mood.

Appendix A presents an operators manual that both monitors use during the experiments. The manual is "keyed" to the behavioral program switch consoles. For each activity in the program, the manual provides the following information: (1) what the right-side monitor must do when the activity is selected, (2) what the subject must do to satisfy the minimum requirements of the activity, (3) what the right-side monitor must do at the conclusion of each activity, and (4) any special instructions associated with the activity. The symbol ● in the "AFTER ACTIVITY" column indicates that the monitor must make some exchange of materials with the subject, e.g., remove a completed health questionnaire from a drawer. The second part of the operator's manual, which describes the behavioral program and the activity requirements, is itself identical to the manual used by subjects in a recent experiment.

There are many unreported but significant details associated with the performance requirements and the resource opportunities of several activities in the behavioral program, and they will be presented next as they appear within the fixed or optional activity sequences.

Within the fixed activity sequence, the Health Check activity requires the subject to complete a series of questionnaires and to report several observations of his physical status as indicated in the H√ form presented in Appendix B. The Physical Exercise activity requires the subject to reach and press switches located in four positions (2 high, left and right; 2 low, left and right) on one wall of each private room. Lights behind the switch in each location indicate which switch is to be pressed. Accurate performance requires that the illuminated switch be pressed within 1.5 sec of its illumination, and the subject must accumulate 500 accurate presses to complete the activity requirements. The task produces a rhythmic calisthenic exercise which a practiced subject can complete with very few, if any, errors or pauses.

Within the optional activity sequence, the Reading activity provides access to books and other textual material of the subject's choice. Subjects may bring their own material to the laboratory, or they may make selections from the laboratory's small collection of books. It is our experience that despite the best of intentions, almost no serious studying is accomplished during the Reading activity, and student subjects are fully advised of this fact. Novels are the preferred reading material, and even subjects who originally select textbooks often switch to novels later in an experiment. The Work Two activity requires the solution of a variety of tasks, usually word problems or mazes which require 20 - 40 min to complete. Figures 6 and 7 present typical tasks presented during Work Two. The Puzzle Assembly activity requires the subject to assemble a small jigsaw puzzle (7 x 7 in) similar to the one presented in Figure 8, and the subject receives a different puzzle on each successive selection of the activity. Nineteen puzzles are available for this activity, and very rarely has a subject twice been presented with the same puzzle during the course of a 10- to 15-day experiment. The Manual Behavior activity provides access to art materials contained in a drawer whose contents are listed in Table 1. The Private Games activity provides access to a drawer

SAMPLE #	ACTIVITY	DAY	TIME	INTERACTION CATEGORIES			INITIALS
				SUBJECT 1	SUBJECT 2	SUBJECT 3	
265	FD3	9	7:15 PM	VOCAL GAMES	VOCAL GAMES	VOCAL GAMES	RQH
				<u>S2 SAYS PE WAKES YOU UP</u> <u>EVEN IF IT IS A PAIN.</u>			
266	FD3	9	7:20 PM	VOCAL GAMES	VOCAL GAMES	VOCAL GAMES	RQH
267	FD3	9	7:25 PM	VOCAL GAMES	VOCAL GAMES	VOCAL GAMES	RQH
				<u>S2 SAYS EXCEPT FOR OCCASIONAL</u> <u>MOMENTS OF FRUSTRATION IT IS</u> <u>NOT THAT BAD IN HERE - HE IS</u> <u>SURPRISED. S3 AGREES</u>			
268	FD3	9	7:30 PM	VOCAL GAMES	VOCAL GAMES	VOCAL GAMES	RQH
		9	7:35 PM	VOCAL GAMES	VOCAL GAMES	VOCAL GAMES	

Figure 4. A completed form for rating occurrence of vocal utterances and social games.

270	FD3	9	7:40 PM	VOCAL GAMES	VOCAL GAMES	VOCAL GAMES	RQH
-----	-----	---	---------	-------------	-------------	-------------	-----

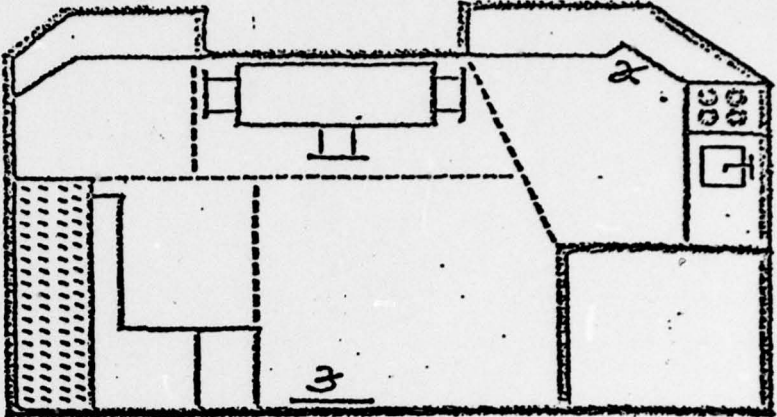
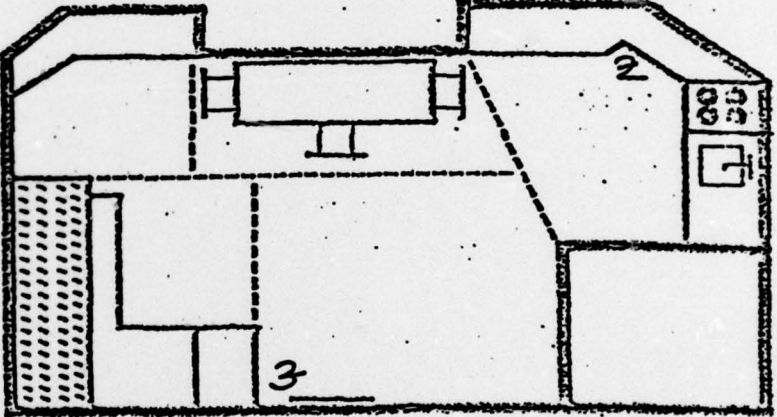
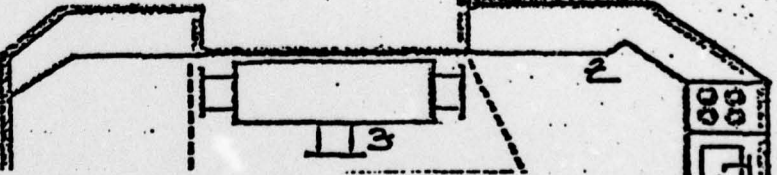
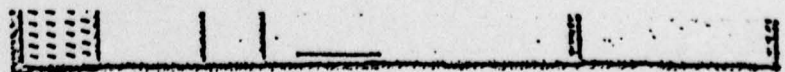
SAMPLE #	10
265	
266	
	

Figure 5. A completed form for social distance determinations.



## PUZZLE #8

ZANY WORD

ON THE ROAD



Actually, this Search-and-Find gridword is about more than road transportation. It covers the whole spectrum of transport on land, sea and air. There are 38 words in all.

AIRPLANE  
AMBULANCE  
AUTOMOBILE  
BARGE  
BUS  
CAB  
CAMEL  
CANOE  
CARRIAGE  
CART  
COMMUTER TRAINS  
CROW  
ELEVATOR  
FEET  
GLIDER  
HORSE  
JET  
JINRIKISHAS  
JUNK

KAYAK  
KUFA  
LLAMA  
LOG  
MULE  
OCEAN LINERS  
OXEN  
RAFT  
SHIPS  
SKIS  
SLEDS  
SUBWAY  
TANK  
TANKER  
TRACTOR  
TRAIN  
TRAYOIS  
TRUCK  
WAGON

C	O	M	M	U	T	E	R	T	R	A	I	N	S	A
A	C	A	R	R	I	A	G	E	K	U	F	A	E	U
N	E	E	R	A	O	Y	T	Z	R	E	L	C	L	T
O	A	N	E	V	G	A	E	N	W	K	G	W	E	O
E	N	A	K	K	A	W	E	Q	O	S	N	R	V	M
H	L	L	N	G	C	B	F	K	U	G	X	A	A	O
G	I	P	A	E	N	U	T	B	X	C	A	R	T	B
O	N	R	T	S	G	S	R	Y	T	R	C	H	O	I
L	E	I	T	R	L	U	A	T	F	O	A	F	R	L
T	R	A	V	O	I	S	C	R	A	X	M	U	L	E
B	S	J	D	H	D	K	T	A	R	E	E	P	X	S
K	A	Y	A	K	E	I	O	I	M	N	L	J	D	H
N	D	H	O	W	R	S	R	N	I	A	E	E	C	I
U	E	C	N	A	L	U	B	M	A	S	L	T	A	P
J	I	N	R	I	K	I	S	H	A	S	M	L	B	S

Figure 6. A typical word problem presented during Work Two.

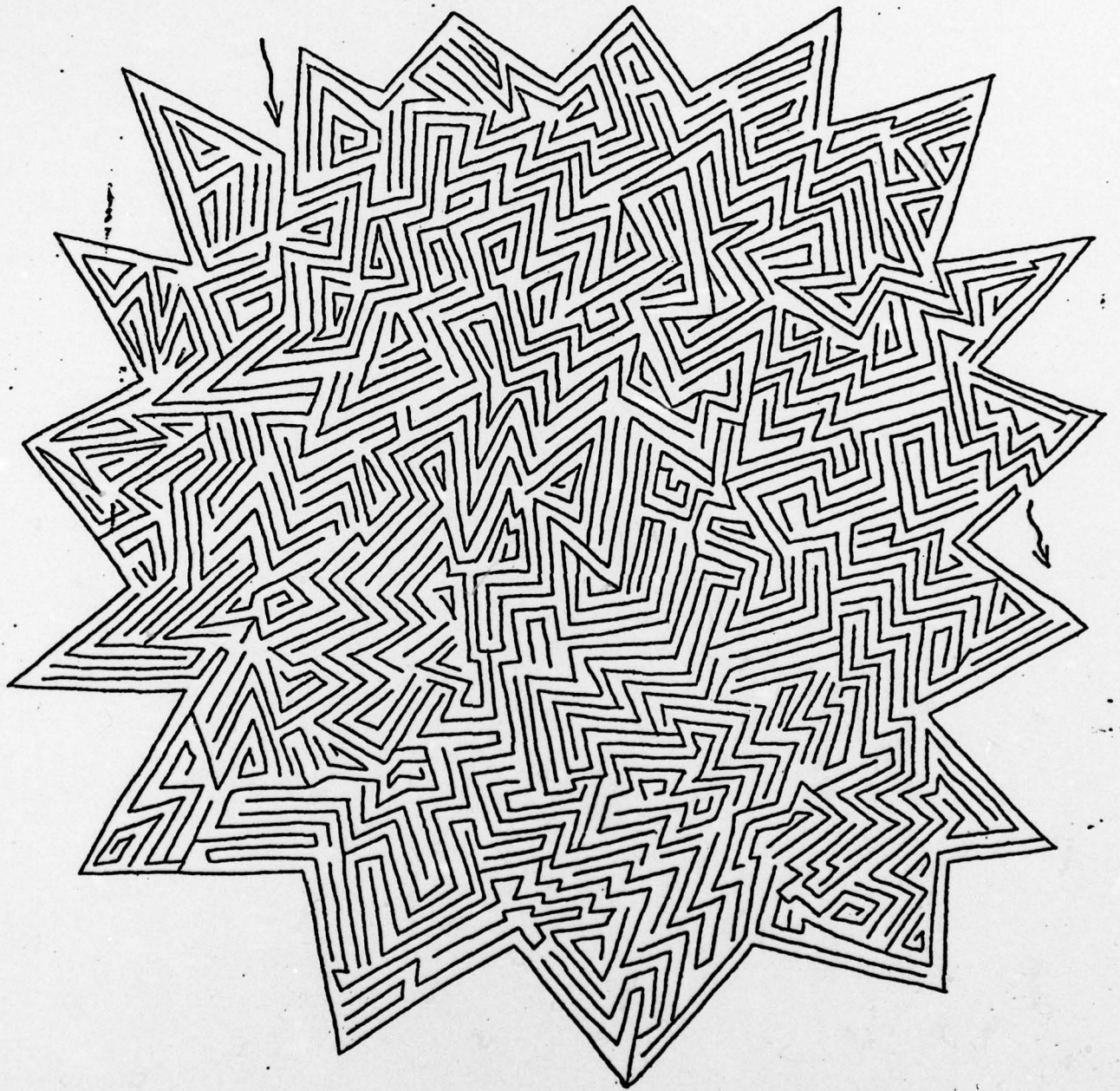


Figure 7. A typical maze presented during Work Two.

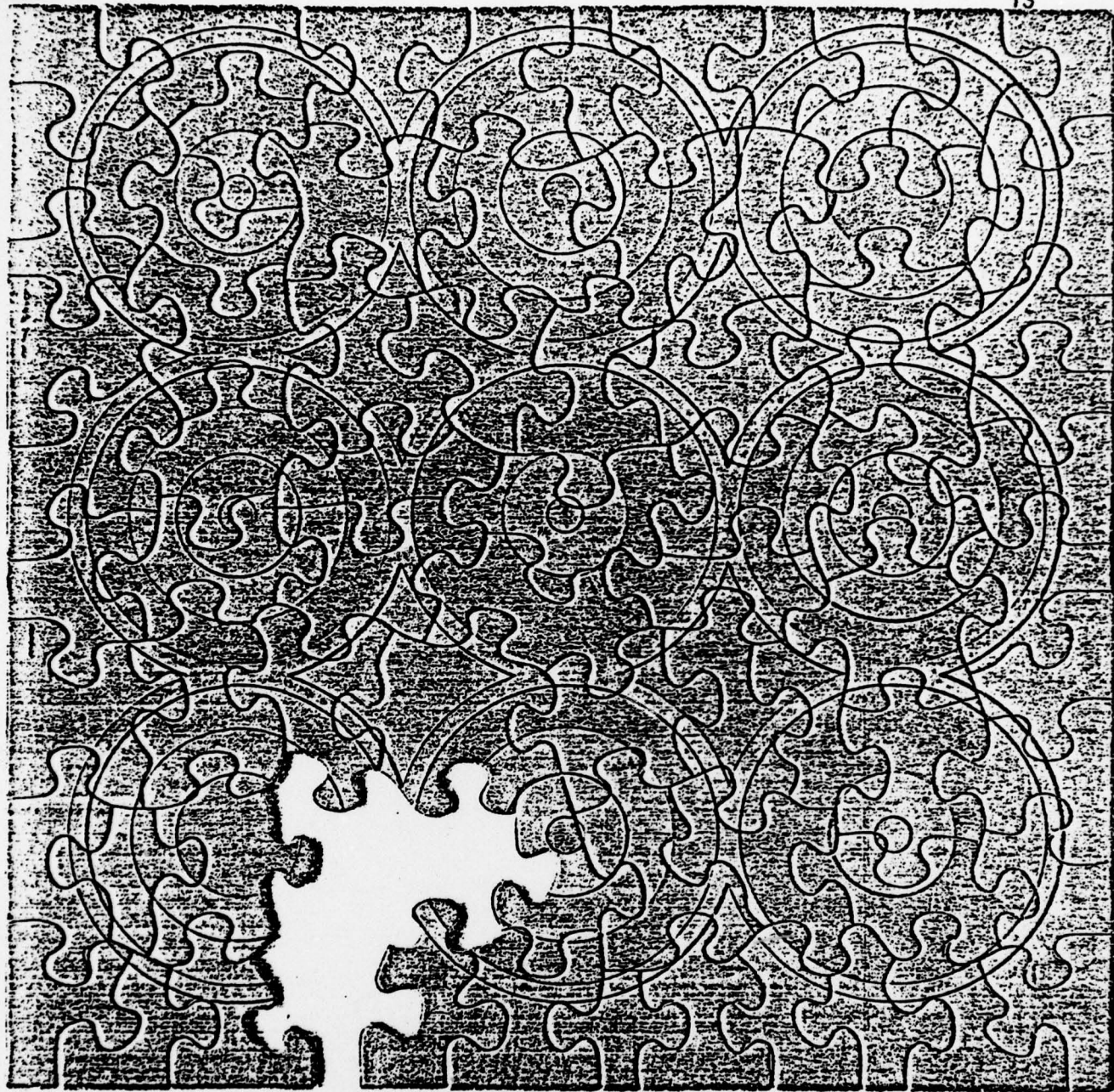


Figure 8. An example of one of the puzzles available for the Puzzle Assembly activity. The puzzle has several colors.

TABLE 1

## Contents of the Manual Behavior Drawer

- 
- 1 Tablet of news stock paper (18 x 24 in)
  - 2 Art sketch books (11 x 14 in and 18 x 24 in)
  - 1 Sketch book (9 x 12 in)
  - 1 Pck. assorted colors construction paper
  - 1 Tablet lined paper (8.5 x 11 in)
  - 1 Set of 6 tempera poster paints
  - 1 Set of water colors
  - 1 Pck. of colored flairs (10)
  - 1 Pck. of colored pencils (18)
  - 1 Pck. of pastels (12)
  - 1 Box crayons (16)
  - 2 Mars-lumograph drawing pencils
  - 1 Charcoal pencil
  - 1 Mechanical pencil
  - 1 Large magic marker (black)
  - 1 Large eraser
  - 1 Pencil sharpener
  - 4 paint brushes (assorted sizes)
  - 1 12 in ruler
  - 1 Bottle glue
  - 1 Pair scissors
  - 2 Water cups
  - 1 Box thumb tacks
  - 1 2 lb pck. of modeling clay
  - 1 clay knife
-

of solitary games which are presented in Table 2. The contents of the "GAMES" cabinet located in the social recreation room are listed in Table 3. It is our experience that under conditions of isolation and confinement, at least, subjects receive much satisfaction and pleasure in working with these simple puzzles and games which are interesting, varied, and challenging, but never overwhelming in complexity.

In summary, the information presented in this paper complements the more formal, and in some important ways less complete, presentations of the methods and procedures which have evolved over the past several years for conducting research studies in a programmed laboratory environment. The intent has been to focus upon the many unreported but significant details associated with such studies so that behavioral programming procedures will more readily fall within the interest and scope of other investigators.

TABLE 2

**Contents of the Private Games Drawer**

---

- 1 Invisible ink quiz and game book
  - 1 Home run baseball game (pinball baseball)
  - 1 Hi-Q
  - 1 Krazy Quilt
  - 1 Fascinating 15
  - 2 Puzzle Squares
  - 1 Ski Slope Brain Teaser
  - 1 Great Train Robbery Brain Teaser
  - 1 Re-stacking discs on wooden pegs game
  - 1 Eight-men puzzle
  - 1 Cube puzzle
  - 6 Link puzzles
  - 1 Deck of cards
  - 1 Yo-yo
-

TABLE 3

**Contents of the Games Cabinet**

---

Chess set  
Checkers  
Backgammon  
Scrabble  
Monopoly  
Clue  
Parcheesi  
Outdoor Survival Game  
Tobruk  
Marble solitaire  
Dominoes  
Peg-out  
Four decks of playing cards  
Carrousel of poker chips  
Pinball game  
Three Nerf balls  
One Nerf Frisbee  
Dartboard with six darts  
Punching bag and gloves

---

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**APPENDIX A**

**An Operator's Manual\***

**\*The information beginning on page 11 and extending through page 35 is identical to a subject's manual used in a recent experiment.**

ACTIVITY	MONITOR	S's MINIMUM REQUIREMENT	AFTER ACTIVITY	SPECIAL INSTRUCTIONS
HV	Press <input type="checkbox"/> HV	Place completed form in General Charging Drawer	Press <input type="checkbox"/> HV Remove HV form from General Charging Drawer	
PE	Press <input type="checkbox"/> PE Microprocessor: Press E Press B Press S's #	500 Correct Responses (Task will stop when S reaches criterion.)	Press <input type="checkbox"/> PE Record S's score beside PE notation in data book. (R=000*000)	If PE light burns out: Press E Press C (all lights now on) After S replaces bulb: Press E Press C Press S's # Press C If monitor presses wrong room key: Press E Press A Press wrong room key again Press E Press B Press correct room key
TO	Press <input type="checkbox"/> TO Press FRIG	S must use <input checked="" type="checkbox"/> and wait for signal light to terminate activity.	Press <input type="checkbox"/> TO Press FRIG	
AB	Press <input type="checkbox"/> AB	Play tape	Press <input type="checkbox"/> AB	

ACTIVITY

MONITOR

S's MINIMUM REQUIREMENT

AFTER ACTIVITY

SPECIAL INSTRUCTIONS

FD1	Press <b>FD1</b> Charge foods in Food Drawer. Turn on signal light Turn off signal light.	Display selection or XX cards Close lounge chair	Press <b>FD1</b>	
SLP	Press <b>SLP</b>	30 minute duration Close bed cover and curtain	Press <b>SLP</b>	
RD	Press <b>RD</b>	30 minute duration Close lounge chair cover	Press <b>RD</b> Charge RD Drawer	
WK2	Press <b>WK2</b>	Return completed task to WK2 Drawer	Press <b>WK2</b> Charge WK2 Drawer	
PA	Press <b>PA</b> Charge puzzle in General Charging Drawer Press <b>GC</b> Turn on signal light Turn off signal light	Assemble puzzle and return it to General Charging Drawer	Press <b>PA</b> Press <b>GC</b> Remove puzzle from General Charging Drawer	Appendix A, p. 2
MB	Press <b>MB</b>	30 minute duration	Press <b>MB</b>	

ACTIVITY	MONITOR	S's MINIMUM REQUIREMENT	AFTER ACTIVITY	SPECIAL INSTRUCTIONS
<p>NWS</p>	<p>Press <input type="checkbox"/> NWS</p> <p>① Charge newspaper in General Charging Drawer</p>	<p>30 minute duration</p> <p>Close lounge chair</p>	<p>Press <input type="checkbox"/> NWS</p> <p>Press <input type="checkbox"/> GC</p> <p>② Remove newspaper from General Charging Drawer</p>	
	<p>Press <input type="checkbox"/> GC</p> <p>Turn on signal light</p> <p>Turn off signal light</p>			

ACTIVITY	MONITOR	S's MINIMUM REQUIREMENT	AFTER ACTIVITY	SPECIAL INSTRUCTIONS
REQ	Press <b>REQ</b> Set counter at 500 Turn on work light Press <b>GC</b> Turn off work light after <u>S</u> stops work	Earn 1 point	Press <b>GC</b> Remove REQ form Charge REQ item Press <b>GC</b> Turn on signal light Turn off signal light (after <u>S</u> retrieves item) Press <b>REQ</b> Press <b>GC</b> Record points Zero counters	20 points is maximum earned in any 1 REQ activity
FD2	Press <b>FD2</b> Charge meal in Food drawer Turn on signal light Turn off signal light	30 minute duration Close lounge chair	Press <b>FD2</b>	
FD3 A--2 <u>SS</u> B--3 <u>SS</u>	Press <b>FD3</b> Charge meal in Social Room Food Cabinet Traffic Procedure: Turn on signal light Press <b>DR</b> Unlock Corridor Door Unlock Soc. Rm. Door Unlock Soc. Bath Door	30 minute duration	Press <b>FD3</b> Remove trash	Record points and reset striking bag counter after each instance of individual use

ACTIVITY

MONITOR

S's MINIMUM REQUIREMENT

AFTER ACTIVITY

SPECIAL INSTRUCTIONS

Do not charge new cassette until old cassette is discharged

Appendix A, p. 5

Press **MU**  
Press **GC**  
Zero counters

2500 Responses  
Wait for cassette to be delivered

Press **MU**  
Set counter at 2500  
Turn on work light  
Press **GC**  
Turn off work light at end of ratio  
Charge cassette  
Turn on signal light  
Turn off signal light

Press **PG**

30 minute duration

Press **PG**

Press **COM** switch to prevent misuse

Press **COM**

Must be between activities

Press **COM**

Press **LTO** Press FRIG

Press **LTO** Press FRIG

Audit may occur at any time

Press **A**

Display A card

Press **A**  
Turn teletype to LINE  
Hold CONTROL key (CTRL) and press BELL key (G) to create beeps  
Type message  
Turn teletype off

ACTIVITY	MONITOR	S's MINIMUM REQUIREMENT	AFTER ACTIVITY	SPECIAL INSTRUCTIONS
AP	<p>Press <b>AP</b></p> <p><u>Traffic Procedure:</u></p> <p>Turn on signal light</p> <p>Press <b>DR</b></p> <p>Unlock Corridor Door</p> <p>Unlock Wkshp. Rm. Door</p> <p>Unlock Wk. Bath Door</p> <p>Turn off signal light</p> <p><u>After S applies electrodes:</u></p> <p><u>Decwriter A</u></p> <p>Type S's #</p> <p>Hold <b>SHIFT</b> key and press "\$"</p> <p><u>Decwriter B</u></p> <p>Press <b>D, M, X, R, H</b> keys</p> <p>Record departure point</p>	<p>Complete Evaluation Form</p>	<p>Press <b>D, M, X, R, H</b> keys</p> <p>Press Microprocessor Reset Button</p> <p>Traffic <b>S</b> back to room</p> <p>Record AP points</p> <p>Label S's # on Decwriter B printout</p> <p>Press <b>RESET</b> key on Decwriter B</p> <p><b>Ⓢ</b> Pick-up Evaluation Form</p> <p><b>Ⓢ</b> Deliver point report</p> <p>Press <b>AP</b></p>	

SAMPLING PROCEDURE

This sampling procedure is to be followed throughout the experiment, during both program conditions, whenever subjects are located in the FD3 or WK3 activity as a dyad or triad.

The scoring is to be done independently by each monitor.

If one monitor is not present when a sample is taken, the monitor who is present should indicate this in the absent monitor's book by drawing a line through the corresponding sample space.

Record the activity: FD3 or WK3.

Record the number of the day: 1 through 10.

Record the current time, indicating AM or PM.

Every 5 min. each monitor should locate the subjects by number on his copy of the Social Room diagram. (This procedure only applies during FD3.)

--Locate the Ss as accurately as possible. Do not locate them according to area only, but locate them in the room exactly, regardless of area.

--If the S is on a piece of furniture, then locate him there.

--If the S is in the bathroom, put his number in the bath space.

Then during the 10 second sampling period each monitor should score each subject on the two interaction categories by circling the category or categories that apply.

VOCAL-vocal utterances

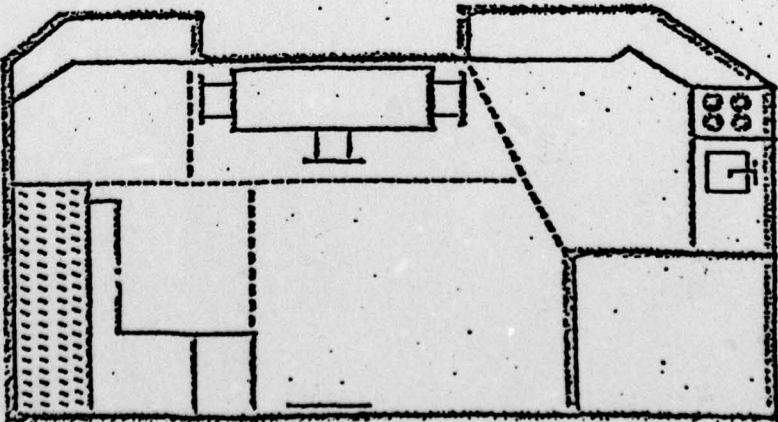
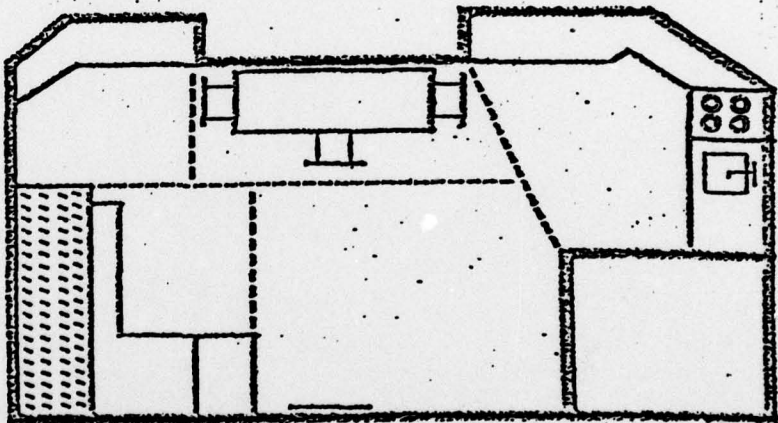
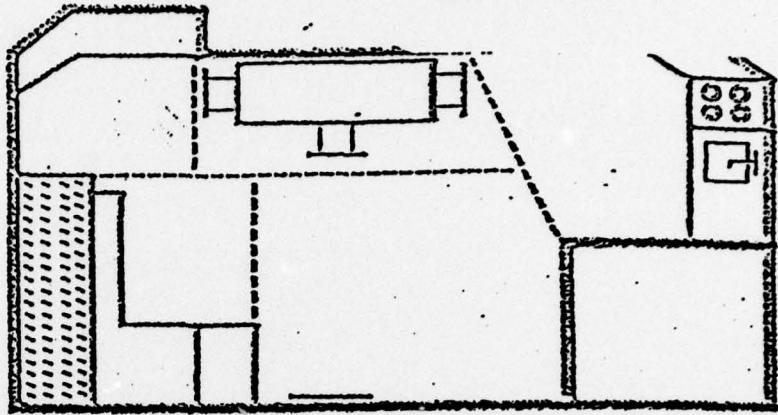
GAMES-social games

Several lines are provided for additional observations of the subjects' behavior.

Record your initials in the block at the end of the row.

SAMPLE #

Appendix A, p. 8

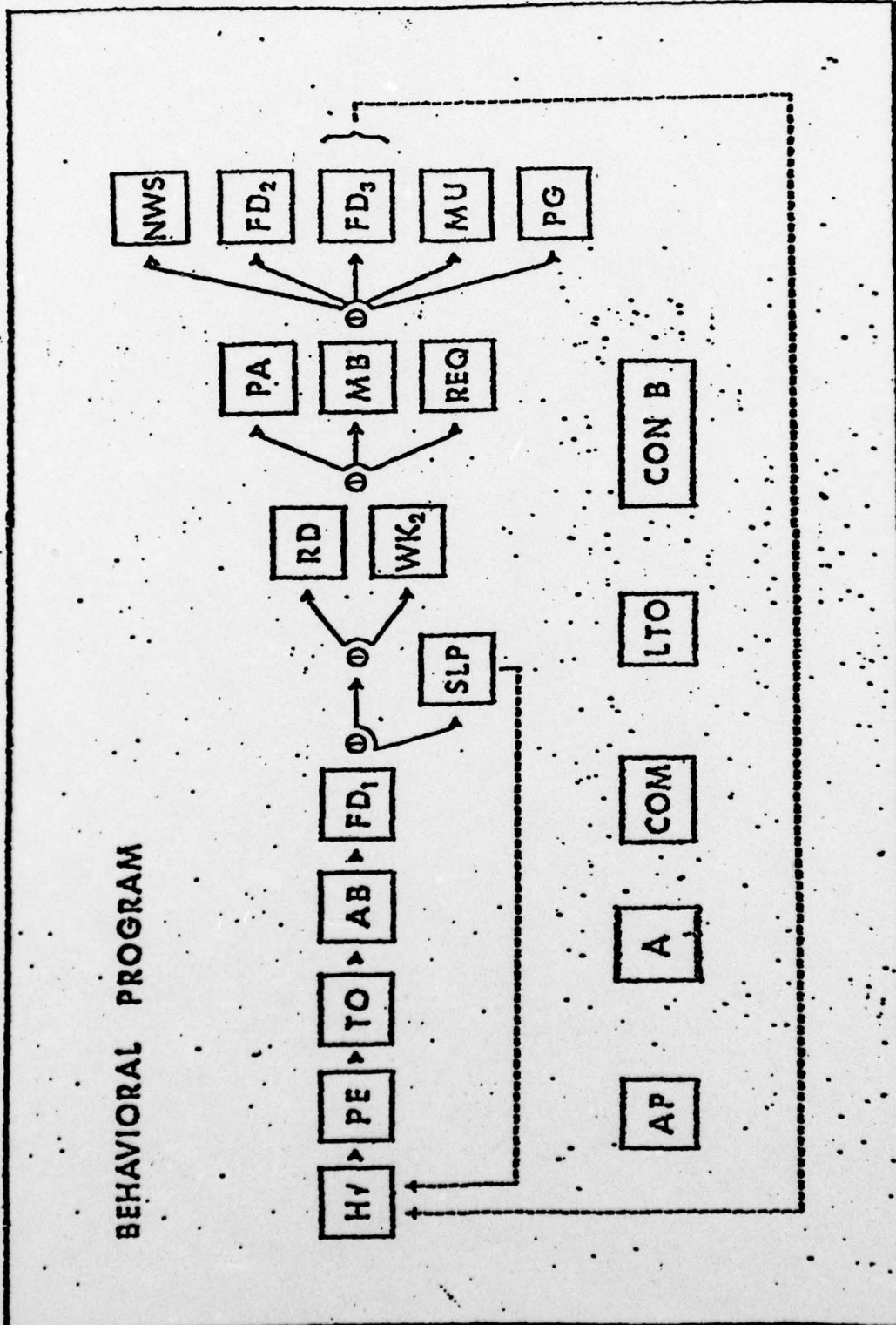


SAMPLE #	ACTIVITY	DAY	TIME	INTERACTION CATEGORIES			INITIALS
				SUBJECT 1	SUBJECT 2	SUBJECT 3	
				VOCAL GAMES	VOCAL GAMES	VOCAL GAMES	
				VOCAL GAMES	VOCAL GAMES	VOCAL GAMES	
				VOCAL GAMES	VOCAL GAMES	VOCAL GAMES	
				VOCAL GAMES	VOCAL GAMES	VOCAL GAMES	
				VOCAL GAMES	VOCAL GAMES	VOCAL GAMES	
				VOCAL GAMES	VOCAL GAMES	VOCAL GAMES	30
				VOCAL GAMES	VOCAL GAMES	VOCAL GAMES	

UNSCHEDULED COMMUNICATION PROCEDURE

1. Turn on CRT for the S(s) with which you want to communicate.
2. Turn teletype to LINE.
3. Hold CONTROL (CTRL) KEY while pressing BELL (G) KEY to create beeps(3).
4. Type message.
5. Turn teletype off.
6. Turn CRT(s) off.

\*\* if you make a typographical error just keep going. You cannot erase.



The sequence of activities that you will follow is presented on the behavioral program diagram. The behavioral program is composed of both a fixed activity sequence and optional activity sequences. The fixed activity sequence is composed of all activities between and including Health Check (HV) and Food One (FD1). That is, once you have selected HV, you must then complete the following activities in the order displayed: Physical Exercise (PE), Toilet Operations (TO), Autogenic Behavior (AB), and Food One (FD1).

When you have completed Food One, you may select one of the following three activities: Sleep (SLP), Reading (RD), or Work Two (WK2). If you choose Sleep, the dotted line on the diagram originating below the SLP notation indicates that after you have completed Sleep, you must return to the Health Check activity and continue with the fixed activity sequence. If you do not choose Sleep, you may select one of the following two activities: Reading (RD), or Work Two (WK2). At the completion of the selected activity, you may then select one of the following three activities: Puzzle Assembly (PA), Manual Behavior (MB), or Requisition (REQ). At the completion of the selected activity, you may then select one of the following five activities: Newspaper (NWS), Food Two (FD2), Food Three (FD3), Music (MU), or Private Games (PG). At the completion of the selected activity, you must return to Health Check and proceed with the fixed activity sequence as the dotted line originating after the last column of activities indicates.

Activities within the behavioral program may be selected only with respect to their sequential order. You may not skip an activity, nor may you reverse the order of selections. You may select Communication (COM) or Alluist Program (AP) only if you are between two activities within the behavioral program. After you have completed AP, you must return to the point in the

behavioral program from which you departed. However, you may select Limited Toilet Operations (LTO) at any time during the behavioral program. The requirements which are associated with each activity displayed on the behavioral program diagram are fully explained in the accompanying set of instructions.

Associated with each activity within the behavioral program is a card that must be displayed whenever you select that activity. These cards are stored within a file box on the desk. To select an activity, you must display on the hook on the cabinet beside the bed the card corresponding to that activity. Only one card should be displayed on the hook at a time with the exception of the LTO card. When you select Limited Toilet Operations, hang the LTO card over whatever activity card is currently displayed. Remove the LTO card when you have completed Limited Toilet Operations and have returned to that activity in which you were previously engaged. Whenever you display a new activity card indicating selection of that activity, return the previously displayed card to the file. When you display an activity card, environmental resources and response requirements related to that activity are in effect. An activity card should always be displayed on the hook.

Two participants will spend ten days in the experiment, and the third participant will only be in the experiment for a few days. For the two full-time participants, earnings will be determined by performance on the duty station. For each point earned, one cent will be deposited in a group (pair) bank account that will be divided evenly between the two of you at the experiment's completion. No more than 6000 points may be earned in a day. The third participant's earnings will be on a per diem basis equivalent to the potential earnings of the other two, but without regard to his contribution to points earned on the duty station. The third participant may contribute to the duty-station work while he is in the environment, but the earnings there always go to the bank account of

the two full-time participants.

Program condition A will refer to the time when only two participants are in the environment. Program condition B will refer to the time when three participants are in the environment. You will be notified on your CRT whenever a program condition changes.

It is possible that another subject will already be occupying the Work Room when you select AP. In such a case, the ACTIVITY UNAVAILABLE light will illuminate for as long as the Work Room is occupied. You may elect either to wait until the ACTIVITY UNAVAILABLE light extinguishes and engage in AP, or to abort AP and proceed to the next activity in the behavioral program. The ACTIVITY UNAVAILABLE light will extinguish automatically if you choose to proceed to the next activity. You may play your music tape while the ACTIVITY UNAVAILABLE light is illuminated. However, you may not use the intercom.

You may use the Audit card (A) to learn the number of points the other subjects have earned within a 24-hour period. Display the Audit card and a report of the other subjects' points values for that 24-hour period will be displayed on the CRT screen. You must leave the Audit card displayed until the report is presented.

Ledger sheets are provided in your protocol for you to keep a record of your total earnings. By using the Audit, you can also keep a record of the other subjects' earnings.

Some activities require the experimenters to place materials in certain of the drawers after you have selected them before they become available. After you have selected such an activity, you must wait for the signal light on your work panel to illuminate before retrieving materials from the drawer. This signal light also serves as a feedback light during activities where you must pull the work lever. You should recognize that this light serves

both as a signal light and a work feedback light at different occasions within the behavioral program.

Some activities require you to spend a minimum amount of time within them before you may proceed to another activity. You may spend as much additional time as you wish beyond the minimum time requirements.

The overhead lights within the private chambers are controlled by two dimmer switches. You may fully extinguish the lights above the bed at any time. You may fully extinguish the remaining overhead lights only during the Sleep activity. You may dim the lights at any time, but the activity card must be visible.

Please do not lie down on the bed covers. You are not permitted to sleep during any activity other than Sleep, and the privacy curtain must remain open at all times other than the Sleep activity.

Failure to comply with the behavioral program, instructions, or requirements related to any activity will cause all power within the module to be extinguished briefly. This event is intended to provide prompt information about errors, inadvertent or otherwise, rather than punishment of any sort. If the lights are extinguished and you are unable to determine the cause, please reread the activity instructions and/or these preparatory paragraphs.

Please adopt a deliberate approach to solving errors or to encountering unforeseen circumstances. If events go awry, don't panic or become overly disturbed. Simply make the best decision you can, and continue with the program. Of course, you are expected to follow the instructions as carefully as you can, and the experiment will be terminated if any subject conspicuously and flagrantly violates the procedure. Further, you are free to terminate the experiment at any time, and the emergency exit doors are always available for this purpose.

From time to time, it may be necessary for the experimenters to make unscheduled communications with you. These communications usually occur to inform you of an equipment problem or to clarify misunderstanding in the protocol. An unscheduled communication will be signalled by several beeps on the CRT, after which the message will appear on the screen. You may reply, if necessary, and you will be heard over the audio monitor.

You will receive notification via the CRT, as to which program condition (A or B) you will be following. You will follow the rules for that condition until you have been informed of a condition change.

HEALTH CHECK (H√)

Supplies necessary to complete this activity are located within a drawer below the bed labeled Health Check. The drawer will unlock soon after you have displayed the card. The requirements associated with this activity are satisfied when you have completed the following nine items:

1. Record your name in the labeled blank space at the top of the LOMS SUBJECTIVE STATUS REPORT.
2. Complete the LOMS SUBJECTIVE STATUS REPORT and the ENVIRONMENTAL QUALITY CHECK LIST as the instructions indicate thereon.
3. Shake down the glass thermometer to a level below the average body temperature (98.6°F). Determine your current body temperature by keeping the glass thermometer under your tongue for 3 minutes measured with the stop watch. Record your temperature in the labeled blank space, shake down the thermometer.
4. Count your heart beats for 15 seconds, multiply this number by 4, and record this latter number in the labeled blank space.
5. Weigh yourself without your shoes, and record your weight in the labeled blank space.
6. Record the current time in the labeled blank space, and estimate the number of days that you could continue to live comfortably in this experiment irrespective of its planned duration.
7. Complete the SLEEP REPORT if applicable.
8. General comments may be recorded in the GENERAL COMMENTS section.
9. Place the completed questionnaires in the General Charging drawer. Return all materials to the Health Check drawer.

Your care in answering all parts of the questionnaires will be greatly appreciated because of the importance of subjects' reactions to the laboratory.

During the second H√ of every 24-hour period, in addition to completing the form, we would like you to write a paper of at least 250 words in length about an interesting or dramatic personal life experience you have had. Please write the paper in one sitting (i.e. do not write for a while, quit, and then finish the paper later). Also we would like you to write about a different experience each day. Do not duplicate your stories. When you have finished put the paper with the completed H√ form in the General Charging drawer.

PHYSICAL EXERCISE (PE)

This activity requires you to press switches mounted on the wall as they are illuminated at random. When one of the four switches is illuminated, you have a brief time period in which to press it to register a correct press. A correct press will turn the light off, produce an audible "beep", and turn on another switch light. An incorrect press, or one that is too slow, will simply extinguish the light and turn on another one without a beep. You must complete 500 correct presses to satisfy the requirements of this activity. Correct presses will increment the amount registered on the counter mounted in the wall between the upper and lower right-hand switches. This counter will reset automatically to zero when you have completed 500 correct responses.

After you have displayed your PE card, the first switch light will be illuminated following a delay: please wait patiently for the first light. No additional lights will appear after you have completed 500 correct presses. When your counter resets to zero and no additional switch light appears, the requirements for this activity have been satisfied.

If a switch lamp burns out while this exercise task is in progress, power will be supplied to all lamps simultaneously. The dark switch contains the burned out lamp. Use your repair kit to remove the two screws holding the switch in its base. Gently remove the switch, unplug the power cable, and replace the bulb. Plug in the cable and replace the switch. The exercise task will then proceed to operate.

If a counter jams or fails initially to increment, continue to operate the task. You will know that the task has been completed when no new switch light appears, and you are permitted to proceed to the next activity.

Please use only your hands and fingers to press the switches. Furthermore, please do not strike the switches too hard. If a switch mechanism jams or breaks while the task is in progress, replace it with the spare one in your repair kit.

TOILET OPERATIONS (TO)

This activity provides access to all bathroom facilities and to the contents of the Toilet Operations drawer. When you display the TO card, the bathroom door will unlock following a delay. The area adjacent to the bathroom is completely private and out of view of the T. V. monitor. If you shower during this activity, you may place your clothes and towel on the bed cover next to the private area. First regulate the water temperature with the sink outlets before you activate the shower nozzle by turning the plastic pointer. Steady the water temperature slightly on the cool side to avoid discomfort from local pressure variations. The shower nozzle may be removed from its holder above the sink. Before you shower, remove the toilet paper from its holder, and place it outside the bathroom. Return the toilet paper after you shower.

During this activity, you may use the vacuum cleaner located in the cabinet beside the bed. At the completion of this activity, all materials not permitted to be retained must be returned to the TO drawer. If you intend to wash your towels and washcloth during the next AP, you may store them now in the HAMPER cabinet.

To terminate this activity, display the transparent LINE card over the TO card; after a brief delay, the signal light will illuminate indicating that you may proceed to another activity.

AUTOGENIC BEHAVIOR (AB)

Items necessary to complete this activity are contained within a drawer below the desk labeled Autogenic Behavior. Remove the tape from the drawer, insert it into the recorder, and follow the instructions. The 10-minute relaxation exercise is most easily and comfortably done lying on the rug with your head resting on the cushion. You must play the entire taped instructions to satisfy the minimum requirements associated with this activity, even if you do not follow them. However, please try to attend closely to the instructions because they probably will help you to feel calm and refreshed. You must play the tape loud enough to be heard over the audio monitor. To complete this activity, rewind the tape and return it to the drawer. If the tape recorder malfunctions during this activity beyond your capacity to repair, proceed to the next activity; your recorder will be repaired automatically at a later time or a spare one will be delivered through the General Charging drawer.

FOOD ONE (FD1)

This activity provides the opportunity to select two different food items from the following list of numbered items:

- |                                    |                                 |
|------------------------------------|---------------------------------|
| 1. Coffee with cream and sugar     | 6. Milk                         |
| 2. Tea with cream and sugar        | 7. Soup                         |
| 3. Hot cereal with milk and sugar  | 8. Waffles and syrup            |
| 4. Cold cereal with milk and sugar | 9. Eggs                         |
| 5. Fresh fruit                     | 10. Bread with butter and jelly |

Your card file contains numbers corresponding to the above list and two Xs. Display on the hooks those cards that correspond to the food items that you desire. The signal light will illuminate when the food items are available within the food drawer, but you must not try to open the food drawer before it illuminates. The signal light will extinguish automatically sometime later during the food activity. If you desire only one food item, display an X card adjacent to the selected numbered card. Although you may save food items delivered during FD1, you may consume those food items only during FD1 or FD2. If you desire no food, display both X cards on the hooks and wait for the signal light to illuminate before proceeding to another activity.

Please be prepared for a brief delay before the signal light illuminates whether or not you have selected food items. This activity also provides access to the stove, refrigerator, kitchen sink hot and cold water, and the utensils. You may use the lounge chair during this activity, but the cover must be closed before you proceed to the next activity. Finally, you must remove and store the numbered and/or X cards before you proceed to another activity.

SLEEP (SLP)

This activity provides access to the bed and the sheets, pillows, and blanket. Raise the covers of the bed, and be sure that they are securely locked in place. Sheets, blanket, and pillow for your use are located within the cabinet above the desk. To put the sheets on, it helps if you slide the whole mattress out toward the bathroom door so you can reach the back corner of the mattress. You may, of course, turn out the chamber lights during this activity and use the curtain around the bed. If you use LTO during SLP, turn on the lights to make the activity card visible.

When you want to terminate the SLP activity, return sheets, blanket and pillow to the cabinet, and lower the covers to the bed. If you intend to wash your sheets during the next AP period, place them in the HAMPER rather than in their storage areas. Be sure that the curtain is fully open and retained with the rope loop. You must remain within this activity at least 30 minutes.

READING (RD)

This activity provides access to reading material contained within the RD drawer, and you must remain within this activity at least 30 minutes. When your RD card has been displayed, the drawer will soon unlock and you may remove the reading material. The lounge chair is available during this activity, but be sure to close it before you proceed to another activity. When you want to terminate RD, close the lounge chair and return all materials to the RD drawer.

WORK TWO (WK2)

This activity provides access to the materials contained within the WK2 drawer. When you have selected this activity, follow the instructions that accompany the materials within the drawer. After you have completed the task, place all the materials, including the finished product, in the pouch and return it to the WK2 drawer. You may then proceed to the next activity.

PUZZLE ASSEMBLY (PA)

This activity requires you to assemble a puzzle within your private chamber. After you have displayed your PA card, the signal light will soon illuminate. When the signal light illuminates, remove the puzzle and assembly board from the General Charging drawer. The signal light will extinguish automatically sometime later during this activity. Assemble the puzzle on the fold-away table to permit visual documentation of completed work. Position your completed puzzle within the area outlined on your assembly board, and place it within the General Charging drawer. Fully close the drawer before proceeding to another activity.

MANUAL BEHAVIOR (MB)

This activity provides access to the materials contained in the Manual Behavior drawer. Although you may spend as much time as you wish in this activity, you must remain in MB at least 30 minutes. You may keep within your chamber any products that you have made with the materials provided. All other materials must be returned to the drawer when you have finished. You may use the kitchen sink and cleaning materials during this activity.

REQUISITION (REQ)

This activity permits you to earn replacements or additions to various consumable materials used within the environment. Items to be requisitioned are earned by accumulating counts or points on the work counter above the desk. Five hundred responses on the work lever are required to earn one point as displayed on your work counter. Soon after you have displayed your REQ card, the work light on the panel will illuminate. When this light is on, you may earn points by pulling the work lever. Each time you pull the lever, the light will momentarily dim to provide you with information that the apparatus is operating properly. When you have paused from working for approximately one minute, the work light will extinguish automatically.

You may spend the points you have earned during the Requisition activity. A form will be provided in the General Charging drawer for you to indicate the items that you want to buy. Place the completed requisition form in the General Charging drawer and close the drawer fully. When the requisition item has been delivered, the signal light will illuminate and extinguish automatically sometime later. When the signal light illuminates, you may remove the item from the General Charging drawer. You should keep a record of earnings and expenditures on the note pad adjacent to the work panel. The point costs of the various items available are as follows:

<u>ITEM</u>	<u>COST</u>
Coke/Tab	18
Peanuts	15
Cheeses	20
Candy	15
Unknown item	40

You must save the food items earned during REQ and consume them only during a food activity. Once you have selected REQ, you must earn at least one point before you may proceed to another activity, but you may earn no more than twenty points during any single requisition activity.

NEWSPAPER (NWS)

This activity provides access to a current newspaper. You must remain within this activity at least 30 minutes. After you have displayed your NWS card, the signal light will soon illuminate. When the signal light illuminates, remove the newspaper from the General Charging drawer. The signal light will extinguish automatically sometime later during this activity. The lounge chair is available during this activity, but be sure to close it before you proceed to another activity. When you want to terminate NWS, close the lounge chair and return the newspaper to the General Charging drawer.

FOOD TWO (FD2)

This activity allows you to prepare and consume a major meal privately within your chamber. You will not be able to choose the contents of this meal, but examples of foods that will be provided are as follows: chicken, turkey, steak, etc., with appropriate side dishes and beverages. After you have displayed your FD2 card, the signal light will illuminate when the food is available within the food drawer; the signal light will extinguish automatically sometime later during the activity. The stove, refrigerator, and utensils are available, and hot and cold water are available at the kitchen sink for drinking and cleanup during this activity. You may use the lounge chair during FD2, but be sure that the cover is closed before you proceed to the next activity. Also, be certain that all drawers are fully closed before you proceed to the next activity. Although you may save food items delivered during FD2, you may consume them only during a FD1 or FD2 activity. You must remain within this activity at least 30 minutes.

FOOD THREE (FD3)

When Program Condition A is in effect, both subjects are required to select FD3 before it becomes available. When Program Condition B is in effect, all three subjects are required to select FD3 before it becomes available. To engage in this activity, all subjects must display their FD3 cards. To synchronize your schedules, either intercom communications should occur between pairs of subjects, or an intercom conference with all three subjects participating should occur sometime prior to selecting this activity. Otherwise, you will not know whether the other participant(s) also intend to select this activity. When all FD3 cards are finally displayed simultaneously, the signal light will soon illuminate, and you may proceed to the social recreation room. Be sure that all doors are fully closed behind you. You may use the bathroom facilities adjacent to the social recreation room, but you may not enter the workroom.

Once you have arrived within the social recreation room, you must remain there for at least 30 minutes before you return to your private room. Within the recreation room, meals will be available within the FOOD cabinet. You may use all facilities within the room including the contents of the GAMES cabinet.

You must terminate FD3 at the same time, returning to your private chamber one at a time. If you are waiting within the social recreation room while another subject is returning to his chamber, you will know that he has entered his chamber when the transition cube door unlocks and can be opened. Please be certain that all doors are fully closed behind you, and do not loiter within the transition cube or corridor.

MUSIC (MU)

Selection of this activity allows you to earn a cassette tape that may be played repeatedly on your tape deck at any time. When the work light goes on after displaying your MU card, you must pull the work lever 2500 times to earn the cassette. Each time you pull the work lever, the light will momentarily dim to provide you with the information that the apparatus is operating properly. The work counter will advance when you have completed the required work, you must place your old tape within the General Charging drawer before a new tape will be delivered. When the first tape or a new tape has been delivered, the signal light will illuminate and extinguish automatically sometime later. When the signal light illuminates, you may remove the tape from the General Charging drawer.

The Music activity allows you to earn the cassette tape. However, it is not necessary to display the MU card to play the tape. If your tape player malfunctions beyond your capacity to repair, it will be repaired automatically later, or a spare machine will be delivered as soon as possible. Once you have selected MU, you must complete 2500 responses and receive the new tape before you may proceed to another activity..

PRIVATE GAMES (PG)

This activity provides access to the materials contained within the Private Games drawer. After you display your PG card, the drawer will soon unlock. To terminate this activity, all materials must be returned to the PG drawer. You must remain within this activity at least 30 minutes.

COMMUNICATION (COM)

The telephone on the panel above the desk may be used to initiate a communication with the other subject(s) or to receive a communication from the other subject(s). The telephone may be used only when you have completed or terminated any given activity within the behavioral program with the exception of the LTO activity. All telephone communications that might occur between activities are optional. You may not use the phone to initiate or engage a conversation while you are currently within any activity period.

To initiate or answer a communication, you must first display your COM card on the hook. If you display your COM card, initiate a communication with one or both of the other subjects but receive no immediate answer, you may either wait and try subsequent calls when you wish, or you may terminate and proceed to the next activity. Once you have proceeded to the next activity in the behavioral program, you may not use COM until you have completed or terminated that activity. The telephone operates as follows:

To call the other room or rooms: Lift the telephone from the receiver. The white light will illuminate indicating that the phone is operational. Push and latch down the numbered buttons corresponding to the room or rooms that you wish to call. As long as these numbered buttons are latched down, the white lights will remain illuminated on the corresponding phones. To produce a ring in the rooms you are calling, simply press the R button for as long as you wish the ring to last. The numbered buttons will remain latched down until you hang up the phone. If you call two rooms, the subjects will not know who has called, but either or both of them may answer by selecting COM. If both subjects answer, you may engage in an intercom conference with three subjects.

To answer a call: To answer a call, it is necessary simply to lift your telephone from the receiver once you have entered the COM activity. You will not know who has called until you have answered the phone. Even though you have engaged in a conversation with another subject, it is still possible for either of you to call the third subject. For example, if subjects 1 and 2 are conversing, either 1 or 2 may call subject 3 by latching down button 3 and pressing the ring button. Subject 3 might then join 1 and 2 for a conference by selecting COM and simply lifting his telephone from the receiver. Of course, all other combinations are possible.

To hang up: To hang up, it is necessary simply to replace your telephone on the receiver. Latched-down numbered buttons will be released, and corresponding call lights within other chambers will be extinguished. Even though you may have discontinued a conversation by hanging up the phone, you continue to have access to the telephone as long as you remain within the COM activity.

LIMITED TOILET OPERATIONS (LTO)

This activity provides access to the toilet bowl and the cold water within the bathroom. You may select this activity at any time during the behavioral program. When you display your LTO card, the bathroom door will unlock following a brief delay. Wash and dries are available within your Personal Belongings drawer. When you select this activity, place the LTO card over the other activity card on the display hook. When you have completed LTO, remove the card and continue with the activity in which you were previously engaged. The bathroom door will lock automatically after you remove the LTO card from the hook.

ALLUI SI PROGRAM (AP)

To select this activity, display your AP card. After a brief delay, the signal light will illuminate, and you may proceed to the Work Room. The performance battery operates exactly as you have been doing it during pretraining, and you have already been taught to apply the electrodes for physiological monitoring. Before and after each occasion at the console, take your blood pressure, and when you finish working, complete the evaluation form and place it on the hook inside the charging door.

Shortly after you have returned to your private room, a point confirmation card will be delivered through the message slot.

**APPENDIX B**  
**Health Check Forms**

## LGM'S SUBJECTIVE STATUS REPORT

Name \_\_\_\_\_

Below is a list of words or phrases that describe different feelings that people have. Rate yourself on each word or phrase by circling the answer that best describes how you feel now.

BE SURE TO RATE YOURSELF ON EVERY WORD OR PHRASE THE WAY YOU FEEL NOW.

If you feel:

not at all that way, circle 1

a little bit that way, circle 2

quite a bit that way, circle 3

extremely that way, circle 4

T \_\_\_\_\_ E \_\_\_\_\_

I \_\_\_\_\_ A \_\_\_\_\_

D \_\_\_\_\_ Co \_\_\_\_\_

B \_\_\_\_\_ Ch \_\_\_\_\_

- |      |                       |         |      |                        |         |
|------|-----------------------|---------|------|------------------------|---------|
| 1.)  | CALM                  | 1 2 3 4 | 30.) | ON EDGE                | 1 2 3 4 |
| 2.)  | NERVOUS               | 1 2 3 4 | 31.) | CHEERFUL               | 1 2 3 4 |
| 3.)  | WEARY                 | 1 2 3 4 | 32.) | BEMILDERED             | 1 2 3 4 |
| 4.)  | FURIOUS               | 1 2 3 4 | 33.) | WORN OUT               | 1 2 3 4 |
| 5.)  | HOPELESS              | 1 2 3 4 | 34.) | COMPOSED               | 1 2 3 4 |
| 6.)  | ON TOP OF THE WORLD   | 1 2 3 4 | 35.) | RESENTFUL              | 1 2 3 4 |
| 7.)  | ACTIVE                | 1 2 3 4 | 36.) | GAY                    | 1 2 3 4 |
| 8.)  | CONFUSED              | 1 2 3 4 | 37.) | BLUE                   | 1 2 3 4 |
| 9.)  | ANXIOUS               | 1 2 3 4 | 38.) | READY FOR A FIGHT      | 1 2 3 4 |
| 10.) | TIRED                 | 1 2 3 4 | 39.) | FORGETFUL              | 1 2 3 4 |
| 11.) | ANNOYED               | 1 2 3 4 | 40.) | DISCOURAGED            | 1 2 3 4 |
| 12.) | AT EASE               | 1 2 3 4 | 41.) | ALERT                  | 1 2 3 4 |
| 13.) | HELPLESS              | 1 2 3 4 | 42.) | BAD TEMPERED           | 1 2 3 4 |
| 14.) | LIGHT HEARTED         | 1 2 3 4 | 43.) | EXHAUSTED              | 1 2 3 4 |
| 15.) | ENERGETIC             | 1 2 3 4 | 44.) | UNTROUBLED             | 1 2 3 4 |
| 16.) | SHAKY                 | 1 2 3 4 | 45.) | EXCITED                | 1 2 3 4 |
| 17.) | ANGRY                 | 1 2 3 4 | 46.) | INDIFFERENT            | 1 2 3 4 |
| 18.) | WORTHLESS             | 1 2 3 4 | 47.) | HAPPY GO LUCKY         | 1 2 3 4 |
| 19.) | FULL OF PEP           | 1 2 3 4 | 48.) | SLUGGISH               | 1 2 3 4 |
| 20.) | CAREFREE              | 1 2 3 4 | 49.) | GROUCHY                | 1 2 3 4 |
| 21.) | WORRIED               | 1 2 3 4 | 50.) | OPTIMISTIC             | 1 2 3 4 |
| 22.) | UNABLE TO CONCENTRATE | 1 2 3 4 | 51.) | UNCERTAIN ABOUT THINGS | 1 2 3 4 |
| 23.) | UNHAPPY               | 1 2 3 4 | 52.) | VIGOROUS               | 1 2 3 4 |
| 24.) | JITTERY               | 1 2 3 4 | 53.) | INEFFICIENT            | 1 2 3 4 |
| 25.) | LONELY                | 1 2 3 4 | 54.) | LIVELY                 | 1 2 3 4 |
| 26.) | SPITEFUL              | 1 2 3 4 | 55.) | CLEAR HEADED           | 1 2 3 4 |
| 27.) | RELAXED               | 1 2 3 4 | 56.) | PRETTY GOOD            | 1 2 3 4 |
| 28.) | ELATED                | 1 2 3 4 | 57.) | ENTHUSIASTIC           | 1 2 3 4 |
| 29.) | TENSE                 | 1 2 3 4 | 58.) | TRANQUIL               | 1 2 3 4 |

## ENVIRONMENTAL QUALITY CHECK LIST

Below is a list of words or phrases that describes certain features or characteristics of the environment. Rate yourself on each word or phrase by finding the answer that best describes the extent to which you have been bothered or distressed by that feature or characteristic since your last health report. Omit items unrelated to this program cycle or experiment. If you have been bothered...

not at all, circle 1  
 a little bit, circle 2  
 quite a bit, circle 3  
 extremely, circle 4

HEALTH CHECK	1 2 3 4	AUDIT	1 2 3 4
TOILET OPERATIONS	1 2 3 4	LIMITED TOILET OPERATIONS	1 2 3 4
AUTOGENIC BEHAVIOR	1 2 3 4	PROGRAM CONDITION A	1 2 3 4
FOOD 1	1 2 3 4	PROGRAM CONDITION B	1 2 3 4
SLEEP	1 2 3 4	ROOM TEMPERATURE	1 2 3 4
PHYSICAL EXERCISE	1 2 3 4	too hot too cold (circle one)	
WORK 1	1 2 3 4	HUMIDITY	1 2 3 4
ALLIISI PPROGRAM	1 2 3 4	too high too low (circle one)	
PRIVATE ARITHMETIC PROBLEMS	1 2 3 4	PRIVATE ROOM SIZE	1 2 3 4
ARITHMETIC PROBLEMS	1 2 3 4	RECREATION ROOM SIZE	1 2 3 4
GROUP ARITHMETIC PROBLEMS	1 2 3 4	WORK ROOM SIZE	1 2 3 4
READING	1 2 3 4	RUGS	1 2 3 4
WORK 2	1 2 3 4	PRIVATE BATHROOM	1 2 3 4
PUZZLE ASSEMBLY	1 2 3 4	COMMON BATHROOM	1 2 3 4
MANUAL BEHAVIOR	1 2 3 4	OVERHEAD LIGHTS	1 2 3 4
REQUISITION	1 2 3 4	LIGHTS OUT	1 2 3 4
WORK 3	1 2 3 4	DECK CHAIR	1 2 3 4
FOOD 2	1 2 3 4	CLOCK	1 2 3 4
FOOD 3	1 2 3 4	WALLS	1 2 3 4
MUSIC	1 2 3 4	DESK	1 2 3 4
PRIVATE GAMES	1 2 3 4	TABLE	1 2 3 4
COMMUNICATION	1 2 3 4	CRT	1 2 3 4
		CIGARETTE DISPENSER	1 2 3 4

STOVE	1 2 3 4	WALL MIRROR	1 2 3 4
PRIVATE KITCHEN	1 2 3 4	NOISE	1 2 3 4
BED	1 2 3 4	ODORS	1 2 3 4
LOUNGE CHAIR	1 2 3 4	COMMON KITCHEN	1 2 3 4
CURTAIN	1 2 3 4	WASHER AND DRYER	1 2 3 4
VACUUM CLEANER	1 2 3 4	INSTRUCTIONS	1 2 3 4
DRAWERS	1 2 3 4	ISOLATION	1 2 3 4
T. V. CAMERAS	1 2 3 4	EXPERIMENTERS	1 2 3 4
CABINETS	1 2 3 4	REMAINING TIME	1 2 3 4
COOKING UTENSILS	1 2 3 4	SEQUENCE OF ACTIVITIES	1 2 3 4
EATING UTENSILS	1 2 3 4	SUBJECT 1	1 2 3 4
CLEANING MATERIALS	1 2 3 4	SUBJECT 2	1 2 3 4
TRASH DISPOSAL	1 2 3 4	SUBJECT 3	1 2 3 4

TEMPERATURE \_\_\_\_\_

PULSE \_\_\_\_\_

WEIGHT \_\_\_\_\_

RECORD CURRENT TIME \_\_\_\_\_

Estimate the number of days you could live comfortably in this experiment.

\_\_\_\_\_ More days

**SLEEP REPORT**

How many minutes did it take you to fall asleep initially? \_\_\_\_\_

How much difficulty did you have falling asleep initially?

- No difficulty
- Some difficulty
- Quite a bit of difficulty
- Much difficulty

How many times did you wake up during the sleep period other than the time when you terminated the sleep period? \_\_\_\_\_

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**GENERAL COMMENTS**

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