

Nixon, Hargrave, Devans & Doyle

Attorneys and Counselors at Law

A PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

SUITE 1200, 1090 VERMONT AVENUE, N.W.

WASHINGTON, D. C. 20005

(202) 642-3600

LINCOLN FIRST TOWER
POST OFFICE BOX 1051
ROCHESTER, NEW YORK 14603
(716) 546-8000
CABLE: NIXONHARG ROCHESTER
TELEX: 978450

ONE ROCKEFELLER PLAZA
NEW YORK, NEW YORK 10020
(212) 566-4100
CABLE: NIXONHARG NEW YORK
TELEX: 06521

247 ROYAL PALM WAY
POST OFFICE BOX 1027
PALM BEACH, FLORIDA 33480
(305) 659-6255

SUITE 510
1001 U.S. HIGHWAY ONE
JUPITER, FLORIDA 33456
(305) 746-1002

January 11, 1983

Dockets Management Branch
Food and Drug Administration
Department of Health and
Human Services
Room 4-62
5600 Fishers Lane
Rockville, Maryland 20857

CITIZEN PETITION

The undersigned submits this petition under 21 CFR 10.30 to request the Commissioner of Food and Drugs to open the administrative record in the Over-the-Counter Drug Review of Weight Control Drug Products (Docket No. 81N-0022) to accept the enclosed materials relating to the recently-completed study conducted at Johns Hopkins University Medical School.

A. Action requested

The undersigned respectfully requests that the administrative record be opened to permit the enclosed materials to be considered in the referenced OTC Drug Review.

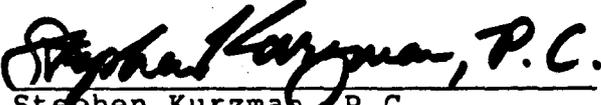
B. Statement of grounds

The grounds on which petitioner relies are that, in the preamble to the Advance Notice of Proposed Rulemaking in the referenced OTC Drug Review (47 Fed. Reg. 8466 *et seq.*, February 25, 1982), the Commissioner requested further studies regarding the safety of phenylpropanolamine hydrochloride for use in weight control products. The enclosed materials summarize such a study, are therefore highly significant to the agency's OTC Drug Review, and should be considered in that review at the earliest possible time.

Dockets Management Branch
January 11, 1983
Page 2

C. Certification

The undersigned certifies that, to the best knowledge and belief of the undersigned, this petition includes all information and views on which the petition relies, and that it includes representative data and information known to the petitioner which are unfavorable to the petition.


Stephen Kurzman P.C.
Nixon, Hargrave, Devans
& Doyle
Suite 1200
1090 Vermont Avenue, N.W.
Washington, D. C. 20005
(202) 842-3600

AN EVALUATION OF THE ACUTE EFFECTS OF
PHENYLPROPANOLAMINE IN NORMAL VOLUNTEERS:
(CROSSOVER DESIGN)

Study Site: Behavioral Pharmacology Research Unit
Johns Hopkins University School of Medicine
Baltimore City Hospitals D-5-West
4940 Eastern Avenue
Baltimore, Maryland 21224

Contact: Frank R. Funderburk
Director, Clinical Consulting
ANTECH, Inc.
(301) 997-0880

Date: October 22, 1982

FINAL REPORT OF
CLINICAL PROTOCOL NO. 82-8(A)

An Evaluation of the Acute Effects of
Phenylpropanolamine in Normal Volunteers:
(Crossover Design)

Sponsor: Thompson Medical Company, Inc.
919 Third Avenue
New York, NY 10022

Investigators: Ira Liebson
George Bigelow
Roland Griffiths
Frank Funderburk

Protocol developed by: The Clinical Consulting Group
ANTECH, Inc. and the
Behavioral Pharmacology Research Unit

Contact: Frank Funderburk
(301) 997-0880

Project Start Date: 25 June 82

Project Completion Date: 31 August 82

TABLE OF CONTENTS

ABSTRACT	1
INTRODUCTION	2
OBJECTIVE AND RATIONALE	2
INVESTIGATIVE METHODS	3
Subjects	3
Design and Procedure	4
1. General Procedures	4
a. Subject Control	4
b. Meals and Food Restrictions	4
c. Drug Administration	5
d. Clinical Measurement	6
2. Design	6
RESULTS	6
DISCUSSION	8
REFERENCES	11
APPENDIX	13
FIGURES	36

ABSTRACT

Fifty-nine (59) healthy normotensive volunteers (mean age = 25.5) participated in a double blind, placebo controlled crossover evaluation of the effects of a 75 mg sustained release dosage form of phenylpropanolamine HCl on blood pressure, pulse, and mood. Each subject participated in two experimental sessions, one under placebo and the other under the active drug treatment. Order of exposure to treatment conditions was randomly determined.

Measurements of blood pressure (sitting, standing, and supine), pulse, and subjective drug effect ("mood") were obtained 9 times during the session - at baseline (prior to drug administration) and at 1/2 hr, 1 hr, 2 hr, 4 hr, 6 hr, 8 hr, 10 hr, and 12 hr post-initial dosing.

Mixed design analysis of variance revealed no statistically significant main effects for drug treatment on measure of pulse or mood. Nearly all blood pressure measures (the standing systolic measure was an exception) showed statistically reliable - but clinically insignificant - differences between placebo and the active drug condition. In all cases, the mean blood pressure was slightly higher under the active drug treatment. The magnitude of this effect, however, was extremely small (the mean differences ranged between .83 and 3.37 mm Hg).

As anticipated, most measures showed main effects for time of day (circadian effects), indicating that the subjects' physiological and subjective state changed over the course of the session. These changes were, however, generally independent of the drug treatment condition. This study suggests that the 75 mg sustained release dosage form of phenylpropanolamine has minimal - and clinically insignificant - effects on the blood pressure, pulse, or mood of normotensive individuals.

An Evaluation of the Acute Effects
of Phenylpropanolamine in Normal Volunteers:
(Crossover Design)

INTRODUCTION

Phenylpropanolamine hydrochloride (PPA) is a synthetic compound with actions similar to ephedrine. However, PPA is generally believed to produce less CNS stimulation than ephedrine. PPA is currently marketed over-the-counter (OTC) in the United States in both as a nasal decongestant and as a weight control aid. Recently the FDA and others have raised questions about the safety and appropriateness of OTC availability of PPA (Federal Register, Vol. 47, No. 39, 1982; Horowitz, 1980; Dietz, 1981; Lancet, 1982). In their publication, the agency requested additional information on the effects of PPA on a variety of safety parameters including blood pressure, pulse, and self-reported side effects. In the present report, crossover experimental design was used to compare the effects of 75 mg sustained release PPA with placebo on these parameters. Fifty-nine normotensive adults were studied over a time course of 12 hours.

OBJECTIVE AND RATIONALE

This study was designed to extend previous research conducted in our laboratory (Funderburk et al., 1982). In that investigation, 150 normotensive adults participated in a study comparing the effects of two dosage forms of PPA (25 mg t.i.d., 75 mg sustained release) with placebo. No significant main effects for drug treatment were found on any of the measures of blood pressure, pulse, or mood. Although the relatively large sample size in that

study provided considerable statistical power, it was believed that an even more sensitive comparison would be afforded by a crossover study in which each subject would serve as his own control.

Several studies have investigated the acute effects of PPA in normal subjects (e.g., Silverman et al., 1980; Hoebel, 1982). However, these studies have generally involved rather small subject samples and have, therefore, had relatively low statistical power. The recent study in our laboratory, however, (Funderburk et al., 1982) which employed 150 subjects in a parallel groups design provided a rather powerful test of the effects of PPA on normal subjects. The present study, using a crossover design, was implemented to provide an even more powerful evaluation of PPA effects in a large group of normal volunteers.

INVESTIGATIVE METHODS

Subjects

Subjects were 59 normal volunteers (both male and female, mean age = 25.5). The study population consisted of 33 caucasians, 25 blacks, and 1 American Indian. All had given informed consent and had been screened to meet the following criteria:

- a. between 18-55 years of age
- b. no current use of medications which would compromise the validity of the evaluation of the test products
- c. no physical contraindications to consumption of PPA at the dose levels used in this study
- d. no history of severe emotional disturbance, chronic alcoholism, or drug abuse

- e. evidence that the subject would participate in the research and be cooperative
- f. good general health based on a medical history interview conducted within one month of the study start and a recent physical examination
- g. female subjects certified that they were not pregnant or nursing a baby for the duration of the protocol.

Design and Procedure

Subjects were randomly assigned to one of two treatment sequences. One group (n = 30) received the placebo treatment on their first testing occasion and the 75 mg sustained release treatment on the second testing session. This order of treatment was reversed for subjects in the other group (n = 29). The two treatment sessions were always separated by at least one washout day to minimize any possible treatment carryover effects. The basic investigative procedures followed for each subject are detailed below.

1. General Procedures

a. Subject control. Subjects were instructed to be free of all medications for the week prior to the first administration of a test product. Subjects who had ingested substances which compromised the validity of the study were excluded. Study medications were administered under clinical supervision. Subjects remained at the test facility for the entire testing period during test days.

b. Meals and food restrictions. On test days subjects were provided with a choice of standard noontime meals. Foods containing xanthines (e.g., coffee, tea, cola) were not permitted on study days.

c. Drug administration. In this investigation a currently marketed dose of a test product containing PPA (75 mg sustained release PPA) was compared with placebo. On each test day subjects received three administrations of a test product (either active medication or placebo). Doses were given at 4 hour intervals (e.g., approximately 8:00 am, 12:00 noon, and 4:00 pm).

Subjects were randomly assigned to one of two treatment conditions on the first test day. One group of subjects (Group A) received the 75 mg sustained release product at their first dosing and matching placebo capsules on subsequent dosings. The other group (Group B) received placebo at all three dosings. After at least one washout day, the subjects returned to complete the second leg of the crossover. During this session, they received the treatment not administered on the first day. This dosing schedule is illustrated in Table 1.

Table 1

Dosing Schedule

		Dose 1 (<u>approx. 8:00 am</u>)	Dose 2 (<u>approx. 12 noon</u>)	Dose 3 (<u>approx. 4:00 pm</u>)
Session One	Group A	75 mg sustained	placebo	placebo
	Group B	placebo	placebo	placebo
Session Two	Group A	placebo	placebo	placebo
	Group B	75 mg sustained	placebo	placebo

d. Clinical measurements. Measures of blood pressure and pulse were obtained 9 times during each experimental session: Once prior to initial drug administration (0 hr) and at 1/2 hr, 1 hr, 2 hr, 4 hr, 6 hr, 8 hr, 10 hr, and 12 hr following initial drug administration. Blood pressure (sitting, standing, supine) was measured using procedures recommended by the American Heart Association (Kirkendall et al., 1980). Clinical measures of subjective state were obtained using analogue ratings of drug effects. These measures were supplemented by subjective reports of subjects and the observations of research staff.

2. Design

This study may be viewed as a 2(drug treatment conditions) x 2(orders of treatment administration) x 9(measurement occasions) mixed design. Mixed design analysis of variance procedures were used to evaluate data from this component of the investigation. Separate analyses were conducted for each of the dependent variables. Factors in the analysis were drug treatment condition (75 mg sustained release vs. placebo), order of treatment administration (active drug first vs. placebo treatment first), and measurement occasion (0 hr, 1/2 hr, etc.). Order of treatment administration was a between groups factor while drug treatment and measurement occasion were within subject factors. For all tests involving repeated measures factors, a conservative F test was used in evaluating statistical significance (see, e.g., Geisser & Greenhouse, 1958).

RESULTS

Specific results of the analysis of variance for each of the variables studied are summarized below.

Pulse tended to increase slightly over the session showing a peak at approximately 6 hours post-dosing ($F = 9.45, p < .01$). This effect occurred under both drug treatment conditions. No main effect for drug treatment was identified. No other main effects or interactions were identified.

Standing systolic blood pressure was relatively stable for subjects in both drug treatment groups. No main effects or interactions were identified.

Standing diastolic blood pressure tended to be slightly higher under the active drug treatment than under placebo. Although this effect was statistically reliable ($F = 7.41, p < .01$), the overall magnitude of the effect was small (mean difference between treatments = 2.26 mm Hg). Under both treatment conditions, standing diastolic blood pressure tended to show peaks at 4 and 12 hours post-initial dosing ($F = 6.81, p < .01$).

Sitting systolic blood pressure tended to be slightly higher under the active drug treatment than under placebo ($F = 4.46, p < .05$). The mean difference between treatments was 2.09 mm Hg. No other main effects or interactions were identified.

Sitting diastolic blood pressure tended to peak at 4 and 12 hours post-initial dosing under both treatment conditions ($F = 5.26, p < .05$). Overall, sitting diastolic blood pressure tended to be higher under the active drug treatment than under placebo ($F = 11.28, p < .01$). The mean difference between treatments was 2.75 mm Hg. No other main effects or interactions were identified.

Supine systolic blood pressure tended to peak at 4 and 12 hours post-initial dosing under both treatment conditions ($F = 7.33, p < .01$). The peak effect at 4 hours was most evident for subjects under the active drug

treatment (resulting in a drug x time interaction, $F = 4.10$, $p < .05$). Overall, supine systolic blood pressure tended to be higher under the active drug treatment than under placebo ($F = 7.35$, $p < .01$). The mean difference between treatments was 2.52 mm Hg. No other main effects or interactions were identified.

Supine diastolic blood pressure tended to peak at 4 and 12 hours post-initial dosing under both treatment conditions ($F = 6.22$, $p < .05$). Overall, supine diastolic blood pressure tended to be higher under the active drug treatment than under placebo ($F = 11.91$, $p < .01$). The mean difference between treatments was 3.37 mm Hg. The time course of this drug effect was slightly different for the two treatment orders (4.15, $p < .05$). No other main effects or interactions were identified.

Subjective measures of drug effect and mood revealed no significant differences between the drug treatment conditions on any of the measures studied (rating of "drug effect," rating of "feeling good," rating of "feeling bad," and rating of "drug liking"). Ratings of "drug effect" tended to peak at approximately 6 hours post-initial dosing under both treatment groups. No other main effects or interactions were identified for any of the subjective measures.

Summary tables of means, standard deviations, and analysis of variance results for each variable studied are presented in the Appendix to this report.

DISCUSSION

The present study evaluated the acute effects of a 75 mg sustained release dosage form of phenylpropanolamine in comparison with placebo. A crossover design, in which each subject served as his own control, was used. Measures of

drug effect on blood pressure (sitting, standing, and supine), pulse, and subjective state ("mood") were obtained over a 12-hour testing period.

As in our previously reported study (Funderburk et al., 1982), overall differences between phenylpropanolamine and placebo on measures of blood pressure were very small. In the present study, however, statistically reliable differences between the active drug and placebo were identified. This result can be attributed to the increased statistical power of the present design. As compared with our previous investigation, the present study had both a larger sample size per group ($n = 59$ vs. $n = 50$) as well as a lower overall error variance (a result of using each subject as his own control). Both of these features of the design served to increase statistical power. Under such conditions, it is quite possible to identify statistically reliable effects which are clinically trivial (see, e.g., Cohen, 1969). In the present study, for example, mean blood pressure differences between drug treatment conditions ranged from .83 mm Hg (standing systolic) to 3.37 mm Hg (supine diastolic) with an average overall difference of less than 2 mm Hg. Obviously, such small overall effects are not regarded as clinically significant.

As expected, statistically significant differences in blood pressure were generally found over the course of the daily session. This finding is consistent with the literature on circadian variation of blood pressure (see, e.g., Bock & Kreuzenbeck, 1966; Millar-Craig et al., 1978; Richardson et al., 1964; Rose, 1980). Drug treatment did not appear to affect these normal circadian variations. This result is consistent with our previous report.

The present study also replicated our previous investigation with respect to subjective drug effects. Overall our analysis failed to reveal any

systematic differences between the drug treatments on subjective ratings of drug effect or drug liking. The effect of the active drug was not rated as any better or any worse than that of the placebo. Somewhat less circadian variability in subjective effect was observed in this study as compared with our previous investigation.

Overall, the results of the present study are quite compatible with the results presented in our previous report. Although statistically reliable effects on blood pressure were noted for the 75 mg sustained release dosage form of phenylpropanolamine, these effects were extremely small and were not considered clinically relevant. Likewise, no adverse effects were noted on pulse or subjective state.

REFERENCES

- Bock, K. D., & Kreuzenbeck, W. Spontaneous blood pressure variations in hypertension: The effect of antihypertensive therapy and correlations with the incidence of complications. In F. Gross (Ed.), Antihypertensive therapy: Principles and practice. An International Symposium. Berlin: Springer, 1966.
- Cohen, J. Statistical power analysis for behavioral sciences. New York: Academic Press, 1969.
- Dietz, A. J. Amphetamine-like reactions to phenylpropanolamine. Journal of the American Medical Association, 1981, 245, 601-602.
- Federal Register, Vol. 47, No. 39, 1982.
- Funderburk, F. R., et al. Effects of phenylpropanolamine on blood pressure, pulse, and mood. Report to Thompson Medical Company. October 8, 1982.
- Geisser, S., & Greenhouse, S. W. An extension of Box's results on the use of the F distribution in multivariate analysis. Annals of Mathematical Statistics, 1958, 29, 885-891.
- Hoebel, B. G. Effects of phenylpropanolamine (75 mg b.i.d.) on normotensive volunteers. Personal communication, Thompson Medical Company. Abstract to be published in Philadelphia Medicine, 1982.
- Horowitz, J. D. et al. Hypertensive responses induced by phenylpropanolamine in anorectic and decongestant preparations. Lancet, 1980, Jan. 12, 60-61.
- Kirkendall, W. M. et al. Recommendations for human blood pressure determination by sphygmomanometers. Report of the Postgraduate Education Committee, American Heart Association, 1980.
- Lancet editorial. Phenylpropanolamine over the counter. Lancet, April 10, 1982, 839.

Millar-Craig, M. W., Bishop, C., & Raferty, E. Circadian variation of blood pressure. Lancet, April 15, 1978, 795-799.

Richardson, D. W., Honour, A., Fenton, G., Stott, F., & Pickering, G. Variation in arterial pressure throughout the day and night. Clinical Science, 1964, 26, 450-460.

Rose, G. The measurement of blood pressure. In A. J. Marshall & D. W. Barritt (Eds.), The hypertensive patient. Pitman Press, 1980, pp. 22-38.

Silverman, H. I. et al. Lack of side effects from orally administered phenylpropanolamine and phenylpropanolamine with caffeine: A controlled three-phase study. Current Therapeutic Research, 1980, 28, 185-194.

APPENDIX

KEY:

C = ORDER OF DRUG ADMINISTRATION (A = 75MG SUSTAINED RELEASE ON FIRST SESSION, PLACEBO ON SESSION TWO; P = PLACEBO ON FIRST SESSION, 75MG SUSTAINED RELEASE ON SESSION TWO.)

D = DOSE ADMINISTERED. 1 = 75MG SUSTAINED RELEASE, 2 = PLACEBO.

T = TIME OF MEASUREMENT, (1=BASELINE, 2=30 MINUTES, 3=1 HOUR, 4=2 HOUR, 5=4 HOUR, 6=6 HOUR, 7=8 HOUR, 8=10 HOUR, 9=12 HOUR).

FOR EACH VARIABLE STUDIED, MEANS AND STANDARD DEVIATIONS AT EACH MEASUREMENT OCCASION ARE PRESENTED IN ONE TABLE, WHILE ANALYSIS OF VARIANCE RESULTS ARE PRESENTED IN ANOTHER. A CONSERVATIVE F-TEST WAS USED TO EVALUATE THE RESULTS OF ALL FACTORS INVOLVING REPEATED MEASURES.

VARIABLE 1: PULSE

CELL MEANS FOR 1-ST DEPENDENT VARIABLE

	ORDER		= A		B		MARGINAL
	DOSE TIME						
PUL0	1	1	76.75862		79.86667		78.33898
PUL5	1	2	76.82067		78.06667		77.35593
PUL10	1	3	74.55172		77.60000		76.10169
PUL20	1	4	76.06896		79.13333		77.62712
PUL40	1	5	76.75862		77.06667		76.51025
PUL60	1	6	84.41379		81.00000		82.67797
PUL80	1	7	78.06896		79.66667		78.88136
PULC	1	8	74.82759		76.20000		75.52542
PUL120	1	9	73.93103		77.73333		75.86441
PUL02	2	1	78.89655		76.06667		77.45763
PUL52	2	2	77.17241		77.33333		77.25424
PUL102	2	3	76.89655		77.13333		77.01695
PUL202	2	4	78.06896		77.53333		77.79661
PUL402	2	5	74.13773		77.40000		75.79481
PUL602	2	6	82.82759		84.53333		83.69491
PUL802	2	7	79.24138		81.46667		80.37288
PULC2	2	8	78.00000		78.53333		78.27119
PUL1202	2	9	77.17241		78.06667		77.62712
MARGINAL			77.46743		78.57778		78.03201

COUNT	29	30	59
-------	----	----	----

STANDARD DEVIATIONS FOR 1-ST DEPENDENT VARIABLE

	ORDER		= A		B	
	DOSE TIME					
PUL0	1	1	10.00591		12.21569	
PUL5	1	2	13.20285		8.68988	
PUL10	1	3	11.09564		10.01241	
PUL20	1	4	11.78962		9.89160	
PUL40	1	5	10.93985		7.53181	
PUL60	1	6	10.23131		8.64232	
PUL80	1	7	10.50827		10.18563	
PULC	1	8	9.95012		10.79400	
PUL120	1	9	9.26565		9.85037	
PUL02	2	1	9.00137		11.33178	
PUL52	2	2	8.95253		11.71304	
PUL102	2	3	9.58550		13.44909	
PUL202	2	4	9.97830		12.62382	
PUL402	2	5	10.39136		12.39744	
PUL602	2	6	11.89859		14.37367	
PUL802	2	7	8.59288		12.53886	
PULC2	2	8	10.91528		12.71384	
PUL1202	2	9	9.26430		11.87850	

VARIABLE 1: PULSE

ANALYSIS OF VARIANCE FOR 1-ST DEPENDENT VARIABLE - PUL0 PUL5 PUL10 PUL20 PUL40 PUL60
PUL120 PUL02 PUL52 PUL102 PUL202 PUL402
PULC2 PUL1202

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	PROB. F EXCEEDED
MEAN	6463093.75000	1	6463093.75000	5887.77893	.000
0	327.23193	1	327.23193	.29810	.582
ERROR	62569.66309	57	1097.71338		
0	120.87634	1	120.87634	.84963	.361
00	61.72772	1	61.72772	.43388	.513
ERROR	8109.38129	57	142.26985		
1	4468.65552	8	558.58194	9.45550	.000
10	231.73096	8	28.96637	.49033	.863
ERROR	26938.13086	456	59.07485		
11	376.30029	8	47.03754	.91872	.501
110	692.26245	8	86.53281	1.69013	.098
ERROR	23346.72217	456	51.19895		

VARIABLE 2: STANDING SYSTOLIC BLOOD PRESSURE

CELL MEANS FOR 1-ST DEPENDENT VARIABLE					
	ORDER =		A	B	MARGINAL
	DOSE TIME				
STBPS0	1	1	99.65517	100.50000	100.08475
STBPS5	1	2	100.82759	99.86667	100.33898
STBPS10	1	3	101.42828	102.30000	101.88136
STBPS20	1	4	100.06896	101.46667	100.77966
STBPS40	1	5	102.41379	102.53333	102.47458
STBPS60	1	6	100.13793	100.60000	100.37288
STBPS80	1	7	96.75862	101.80000	99.32203
STBPS0	1	8	96.82759	102.53333	99.72881
STBPS12	1	9	100.48276	105.60000	103.08475
STBPS02	2	1	97.86207	101.06667	99.49152
STBPS52	2	2	96.82759	97.80000	97.32203
STBPSX2	2	3	97.72414	97.86667	97.79661
STBPS22	2	4	96.68965	99.76667	98.25424
STBPS42	2	5	95.10345	103.20000	99.22034
STBPD62	2	6	101.03448	104.40000	102.74576
STBPS82	2	7	98.89655	100.33333	99.62712
STBPS02	2	8	101.24138	104.53333	102.91525
STBPS1202	2	9	100.13793	106.26667	103.25424
MARGINAL			99.11877	101.80185	100.48305
COUNT			29	30	59

STANDARD DEVIATIONS FOR 1-ST DEPENDENT VARIABLE					
	ORDER =		A	B	
	DOSE TIME				
STBPS0	1	1	13.08291	19.45596	
STBPS5	1	2	13.49621	18.36739	
STBPS10	1	3	12.61401	18.55681	
STBPS20	1	4	13.33612	19.25462	
STBPS40	1	5	14.89371	19.90968	
STBPS60	1	6	14.85098	14.13384	
STBPS80	1	7	14.15641	21.53650	
STBPS0	1	8	14.35785	16.75736	
STBPS12	1	9	18.45965	16.21749	
STBPS02	2	1	11.61195	17.16237	
STBPS52	2	2	12.20676	17.32728	
STBPSX2	2	3	13.02442	16.23052	
STBPS22	2	4	14.46450	21.74727	
STBPS42	2	5	12.45089	16.82035	
STBPD62	2	6	13.65515	17.57271	
STBPS82	2	7	12.46236	16.53489	
STBPS02	2	8	13.82972	16.72441	
STBPS12	2	9	13.78333	15.93723	

VARIABLE 2: STANDING SYSTOLIC BLOOD PRESSURE

ANALYSIS OF VARIANCE FOR 1-ST DEPENDENT VARIABLE - STBPS0 STBPS6 STBPS10 STBPS20 STBPS40 STBPS60
 STBPS12 STBPS02 STBPS52 STBPSX2 STBPS22 STBPS42
 STBPS02 STBPS12

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	PROB. F EXCEEDED
MEAN	10714912.12500	1	10714912.12500	3391.79160	.000
O ERROR	1910.75977 180067.07422	1 57	1910.75977 3159.07147	.60485	.440
D DD ERROR	186.04907 101.60474 16611.08716	1 1 57	186.04907 101.60474 291.42258	.63842 .34865	.428 .557
T TD ERROR	1714.53223 809.54590 33982.88379	8 8 456	214.31653 101.19324 74.52387	2.87581 1.35786	.004 .213
DT DTO ERROR	1572.67187 669.11621 32296.80640	8 8 456	196.58398 83.63953 70.82633	2.77558 1.18091	.005 .309

VARIABLE 3: STANDING DIASTOLIC BLOOD PRESSURE

CELL MEANS FOR 1-ST DEPENDENT VARIABLE					
	ORDER = A		B	MARGINAL	
	DOSE TIME				
STEPD0	1	1	68.34483	65.60000	66.94915
STEPD5	1	2	67.17241	65.26667	66.20339
STEPD10	1	3	67.10345	62.23333	64.62712
STEPD20	1	4	67.24138	63.00000	65.06475
STEPD40	1	5	67.10345	67.13333	67.11864
STEPD60	1	6	63.03448	62.86667	62.94915
STEPD80	1	7	58.68965	64.00000	61.38983
STEPD8	1	8	62.06897	62.26667	62.16949
STEPD12	1	9	65.03448	67.60000	66.33898
STEPD02	2	1	62.34483	63.60000	62.98305
STEPD52	2	2	61.58621	64.13333	62.88136
STEPD52	2	3	61.48276	64.60000	63.06780
STEPD22	2	4	60.68965	64.26667	62.50847
STEPD42	2	5	61.10345	63.66667	62.40678
STEPD62	2	6	62.75862	61.13333	61.93220
STEPD82	2	7	61.17241	59.20000	60.16949
STEPDC2	2	8	62.48276	61.00000	61.72881
STEPD12	2	9	65.17241	64.53333	64.84746
MARGINAL			63.58812	63.67222	63.63088
COUNT			29	30	59
STANDARD DEVIATIONS FOR 1-ST DEPENDENT VARIABLE					
	ORDER = A		B		
	DOSE TIME				
STEPD0	1	1	12.60464	10.29764	
STEPD5	1	2	11.83840	11.57266	
STEPD10	1	3	9.90795	12.77304	
STEPD20	1	4	11.55624	11.67077	
STEPD40	1	5	11.10452	12.06515	
STEPD60	1	6	10.88407	13.06412	
STEPD80	1	7	11.57924	13.84645	
STEPD8	1	8	10.30233	11.71775	
STEPD12	1	9	12.06673	10.75623	
STEPD02	2	1	6.63473	12.19836	
STEPD52	2	2	7.15900	13.26581	
STEPD52	2	3	8.10917	13.56618	
STEPD22	2	4	7.86086	12.68975	
STEPD42	2	5	9.06463	12.83404	
STEPD62	2	6	9.81655	14.39045	
STEPD82	2	7	9.89253	13.57076	
STEPDC2	2	8	11.35977	13.37780	
STEPD12	2	9	8.88970	14.32085	

VARIABLE 3: STANDING DIASTOLIC BLOOD PRESSURE

ANALYSIS OF VARIANCE FOR 1-ST DEPENDENT VARIABLE - STBPD0 STBPD5 STBPD10 STBPD20 STBPD40 STBPD60						
STBPD12 STBPD02 STBPD52 STBPDX2 STBPD22 STBPD12						
STBPD02 STBPD12						
SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	PROB. F EXCEEDED	
MEAN	4298587.56250	1	4298587.56250	2863.06299	.000	
U	1.87695	1	1.87695	.00125	.972	
ERROR	85579.49707	57	1501.39468			
V	1365.91699	1	1365.91699	7.47812	.008	
W	142.01892	1	142.01892	.77753	.382	
ERROR	10411.33936	57	182.65508			
X	2382.68311	8	297.83539	6.81190	.000	
Y	238.39038	8	29.79880	.68154	.708	
ERROR	19937.59351	456	43.72279			
Z	521.55347	8	65.19418	1.45187	.173	
HTO	1593.75684	8	199.21960	4.43661	.000	
ERROR	20476.01172	456	44.90353			

VARIABLE 4: SITTING SYSTOLIC BLOOD PRESSURE

CELL MEANS FOR 1-ST DEPENDENT VARIABLE

	ORDER	=	A	B	MARGINAL
	DOSE	TIME			
SIBPS0	1	1	106.82759	109.06667	107.96610
SIBPS5	1	2	106.89655	107.33333	107.11864
SIBPS10	1	3	107.82759	108.03333	107.93220
SIBPS20	1	4	107.51724	107.86667	107.69491
SIBPS40	1	5	111.58621	110.46667	111.01695
SIBPS60	1	6	110.62069	110.13333	110.37288
SIBPS80	1	7	107.17241	110.53333	108.88136
SIBPSC	1	8	105.44828	109.26667	107.38983
SIBPS12	1	9	105.51724	111.46667	108.54237
SIBPS02	2	1	105.58621	109.86667	107.76271
SIBPS52	2	2	102.34483	105.80000	104.10169
SIBPSX2	2	3	105.96552	105.33333	105.64407
SIBPS22	2	4	101.86207	105.93333	103.93220
SIBPS42	2	5	101.10345	106.13333	103.66102
SIBPS62	2	6	107.51724	110.66667	109.11864
SIBPS82	2	7	106.27586	108.33333	107.32203
SIBPSC2	2	8	106.00000	107.53333	106.77966
SIBPS12	2	9	108.00000	111.60000	109.83051
MARGINAL			106.33716	108.63148	107.50377
COUNT			29	30	59

STANDARD DEVIATIONS FOR 1-ST DEPENDENT VARIABLE

	ORDER	=	A	B
	DOSE	TIME		
SIBPS0	1	1	11.98233	19.48108
SIBPS5	1	2	12.54234	15.78592
SIBPS10	1	3	12.93961	14.69807
SIBPS20	1	4	11.54686	15.25809
SIBPS40	1	5	15.77864	12.51408
SIBPS60	1	6	14.91982	12.74615
SIBPS80	1	7	16.54878	12.44162
SIBPSC	1	8	14.33175	13.67084
SIBPS12	1	9	17.42457	13.55381
SIBPS02	2	1	12.75460	15.77369
SIBPS52	2	2	13.33169	13.92938
SIBPSX2	2	3	12.80759	14.11610
SIBPS22	2	4	10.47352	15.83086
SIBPS42	2	5	11.01410	15.89564
SIBPS62	2	6	15.90737	15.27977
SIBPS82	2	7	13.28503	17.41251
SIBPSC2	2	8	12.30563	15.81517
SIBPS12	2	9	14.44200	15.41517

DATA DOCUMENTS/INC. II

VARIABLE 4: SITTING SYSTOLIC BLOOD PRESSURE

ANALYSIS OF VARIANCE FOR 1-ST DEPENDENT VARIABLE - SIBPS0						
	SIBPS12	SIBPS5	SIBPS10	SIBPS20	SIBPS40	SIBPS60
	SIBPS12	SIBPS02	SIBPS52	SIBPSX2	SIBPS22	SIBPS42
	SIBPSC2	SIBPS12				
SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	PROB. F EXCEEDED	
MEAN	12265629.37500	1	12265629.37500	5207.72302	.000	
D	1397.16016	1	1397.16016	.59320	.444	
ERROR	134250.77930	57	2355.27682			
D	1165.89600	1	1165.89600	4.46456	.039	
DD	113.91113	1	113.91113	.43620	.512	
ERROR	14885.23425	57	261.14446			
T	1818.73779	8	227.34222	2.99980	.003	
TD	439.27891	9	54.79885	.72289	.671	
ERROR	34558.37256	456	75.78590			
DT	1485.18066	8	185.64758	2.85488	.004	
DTD	559.33496	8	69.91687	1.07518	.379	
ERROR	29452.86499	456	65.02821			

VARIABLE 5: SITTING DIASTOLIC BLOOD PRESSURE

CELL MEANS FOR 1-ST DEPENDENT VARIABLE						
			ORDER =		MARGINAL	
			A	B		
DOSE TIME						
SIBPD0	1	1	66.75862	68.60000	67.69491	
SIBPD5	1	2	68.06896	68.13333	68.10169	
SIBPD10	1	3	69.17241	69.50000	69.33898	
SIBPD20	1	4	70.68965	69.20000	69.93220	
SIBPD40	1	5	71.65517	71.33333	71.49152	
SIBPD60	1	6	63.86207	66.66667	65.28814	
SIBPD80	1	7	64.13793	66.93333	65.55932	
SIBPDC	1	8	64.48276	65.40000	64.94915	
SIBPD120	1	9	66.55172	69.00000	67.79661	
SIBPD02	2	1	63.93103	68.06667	66.03390	
SIBPD52	2	2	66.75862	66.20000	65.49152	
SIBPDx2	2	3	66.41379	65.93333	66.16949	
SIBPD22	2	4	63.58621	66.63333	65.13559	
SIBPD42	2	5	65.44828	64.46667	64.94915	
SIBPD62	2	6	64.48276	63.00000	63.72881	
SIBPD82	2	7	63.86207	63.20000	63.52542	
SIBPDC2	2	8	63.72414	63.20000	63.45763	
SIBPD1202	2	9	67.10345	66.80000	66.94915	
MARGINAL			66.03831	66.79259	66.42185	
COUNT			29	30	59	

STANDARD DEVIATIONS FOR 1-ST DEPENDENT VARIABLE						
			ORDER =			
			A	B		
DOSE TIME						
SIBPD0	1	1	7.73515	10.29429		
SIBPD5	1	2	10.61647	11.28848		
SIBPD10	1	3	8.28970	9.78651		
SIBPD20	1	4	11.01007	11.89146		
SIBPD40	1	5	11.84506	9.94236		
SIBPD60	1	6	10.55504	10.69106		
SIBPD80	1	7	13.58498	11.45586		
SIBPDC	1	8	11.00201	8.32363		
SIBPD120	1	9	11.73391	9.52311		
SIBPD02	2	1	8.90398	9.69156		
SIBPD52	2	2	8.33947	11.00909		
SIBPDx2	2	3	7.33639	9.98597		
SIBPD22	2	4	7.23838	12.45816		
SIBPD42	2	5	9.03796	10.95046		
SIBPD62	2	6	10.94995	12.96946		
SIBPD82	2	7	9.88406	9.87648		
SIBPDC2	2	8	9.42222	9.43362		
SIBPD1202	2	9	9.22088	11.16151		

VARIABLE 5: SITTING DIASTOLIC BLOOD PRESSURE

ANALYSIS OF VARIANCE FOR 1-ST DEPENDENT VARIABLE -						
	SIBPD0	SIBPD5	SIBPD10	SIBPD20	SIBPD40	SIBPD60
	SIBPD12	SIBPD02	SIBPD52	SIBPDX2	SIBPD22	SIBPD42
	SIBPDC2	SIBPD12				
SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	PROB. F EXCEEDED	
MEAN	4683147.75000	1	4683147.75000	5005.32391	.000	
D	151.00928	1	151.00928	.16140	.689	
ERROR	53331.09814	57	935.63330			
D	1993.95837	1	1993.95837	11.28782	.001	
DD	22.13171	1	22.13171	.12529	.725	
ERROR	10068.87134	57	176.64686			
T	2315.44312	8	289.43039	5.26077	.000	
TD	241.17725	8	30.14716	.54796	.820	
ERROR	25087.64160	456	55.01676			
DT	808.12109	8	101.01514	2.21541	.025	
DTD	485.23584	8	60.65448	1.33024	.226	
ERROR	20792.05859	456	45.59662			

VARIABLE 6: SUSPINE SYSTOLIC BLOOD PRESSURE

CELL MEANS FOR 1-ST DEPENDENT VARIABLE					
	ORDER	=	A	B	MARGINAL
	DOSE	TIME			
SUBPS0	1	1	107.58621	114.80000	111.25424
SUBPS5	1	2	110.89655	113.13333	112.03390
SUBPS10	1	3	111.58621	114.96667	113.30508
SUBPS20	1	4	112.20690	115.26667	113.76271
SUBPS40	1	5	119.51724	119.60000	119.55932
SUBPS60	1	6	115.37931	119.13333	117.28814
SUBPS80	1	7	108.68965	117.33333	113.08475
SUBPSC	1	8	111.03448	117.33333	114.23729
SUBPS12 ⁰	1	9	111.51724	119.33333	115.49152
SUBPS02	2	1	109.31034	111.86667	110.61017
SUBPS52	2	2	108.27586	110.23333	109.27119
SUBPSX2	2	3	107.72414	110.06667	108.91525
SUBPS22	2	4	108.06896	111.96667	110.05085
SUBPS42	2	5	107.79310	112.86667	110.37288
SUBPS62	2	6	111.65517	118.46667	115.11864
SUBPS82	2	7	111.51724	116.40000	114.00000
SUBPSC2	2	8	111.31034	112.80000	112.06780
SUBPS12 ⁰²	2	9	114.96552	119.00000	117.01695
MARGINAL			111.05747	115.25370	113.19115
COUNT			29	30	59

STANDARD DEVIATIONS FOR 1-ST DEPENDENT VARIABLE					
	ORDER	=	A	B	
	DOSE	TIME			
SUBPS0	1	1	11.17880	18.79545	
SUBPS5	1	2	11.73013	15.10134	
SUBPS10	1	3	12.50576	14.53292	
SUBPS20	1	4	13.39877	15.76975	
SUBPS40	1	5	17.57153	20.24948	
SUBPS60	1	6	14.13308	14.75953	
SUBPS80	1	7	13.97217	18.43784	
SUBPSC	1	8	12.97933	20.18079	
SUBPS12 ⁰	1	9	14.64489	14.38709	
SUBPS02	2	1	13.78691	14.35446	
SUBPS52	2	2	9.80851	14.96590	
SUBPSX2	2	3	13.95630	11.24625	
SUBPS22	2	4	12.42673	16.70945	
SUBPS42	2	5	15.97628	13.57161	
SUBPS62	2	6	12.32963	13.71315	
SUBPS82	2	7	12.00780	13.50760	
SUBPSC2	2	8	12.35517	14.55169	
SUBPS12 ⁰²	2	9	11.98357	19.07336	

ATA UNIFORMS INC. II

VARIABLE 6: SUPINE SYSTOLIC BLOOD PRESSURE

ANALYSIS OF VARIANCE FOR 1-ST DEPENDENT VARIABLE -						
	SUBPS0	SUBPS5	SUBPS10	SUBPS20	SUBPS40	SUBPS60
	SUBPS12	SUBPS02	SUBPS52	SUBPSX2	SUBPS22	SUBPS42
	SUBPSC2	SUBPS12				
SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	PROB. F EXCEEDED	
MEAN	13594134.50000	1	13594134.50000	5564.55609	.000	
D	4673.67969	1	4673.67969	1.91310	.172	
ERROR	139250.22070	57	2442.98633			
D	1660.84766	1	1660.84766	7.35186	.009	
DD	73.00623	1	73.00623	.32317	.572	
ERROR	12876.78149	57	225.90845			
T	4603.22559	8	575.40320	7.32561	.000	
TD	608.88037	8	76.11005	.96898	.450	
ERROR	35817.34424	456	78.54681			
DT	2434.13330	8	304.26666	4.09794	.000	
DTD	733.43262	8	91.67908	1.23476	.277	
ERROR	33857.36230	456	74.24060			

VARIABLE 7: SUPINE DIASTOLIC BLOOD PRESSURE

CELL MEANS FOR 1-ST DEPENDENT VARIABLE					
	ORDER	=	A	B	MARGINAL
	DOSE	TIME			
SUBPD0	1	1	64.48276	69.53333	67.05085
SUBPD5	1	2	69.75862	67.93333	68.83051
SUBPD10	1	3	70.82759	68.46667	69.62712
SUBPD20	1	4	72.48276	70.20000	71.32203
SUBPD40	1	5	72.20690	76.13333	74.20339
SUBPD60	1	6	63.86207	72.20000	68.10169
SUBPD80	1	7	63.31034	70.33333	66.88136
SUBPDC	1	8	66.06896	69.46667	67.79661
SUBPD120	1	9	68.82759	73.40000	71.15254
SUBPD02	2	1	66.75862	67.80000	67.28814
SUBPD52	2	2	64.34483	67.80000	66.10169
SUBPDX2	2	3	66.13793	69.26667	67.72881
SUBPD22	2	4	67.44828	68.60000	68.03390
SUBPD42	2	5	65.58621	65.93333	65.76271
SUBPD62	2	6	64.00000	62.46667	63.22034
SUBPD82	2	7	63.86207	62.60000	63.22034
SUBPDC2	2	8	65.17241	62.86667	64.00000
SUBPD1202	2	9	69.24138	69.26667	69.25424
MARGINAL			66.90996	68.57037	67.75424
COUNT			29	30	59

STANDARD DEVIATIONS FOR 1-ST DEPENDENT VARIABLE					
	ORDER	=	A	B	
	DOSE	TIME			
SUBPD0	1	1	11.71879	9.69441	
SUBPD5	1	2	9.62012	10.32551	
SUBPD10	1	3	10.02165	10.44768	
SUBPD20	1	4	10.77902	11.29357	
SUBPD40	1	5	16.79579	14.12196	
SUBPD60	1	6	12.14121	12.84765	
SUBPD80	1	7	10.90578	11.86224	
SUBPDC	1	8	12.51836	13.26581	
SUBPD120	1	9	13.37927	9.32405	
SUBPD02	2	1	9.32606	10.05296	
SUBPD52	2	2	9.00903	11.65421	
SUBPDX2	2	3	12.51206	9.49022	
SUBPD22	2	4	8.76513	11.18065	
SUBPD42	2	5	10.34241	9.64877	
SUBPD62	2	6	11.91637	11.26096	
SUBPD82	2	7	10.70288	9.35359	
SUBPDC2	2	8	10.39941	9.33194	
SUBPD1202	2	9	10.09121	15.36009	

VARIABLE 7: SUPINE DIASTOLIC BLOOD PRESSURE

ANALYSIS OF VARIANCE FOR 1-ST DEPENDENT VARIABLE - SUBPD0 SUBPD5 SUBPD10 SUBPD20 SUBPD40 SUBPD60
 SUBPD120 SUBPD02 SUBPD52 SUBPDX2 SUBPD22 SUBPD42
 SUBPDC2 SUBPD1202

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	PROB. F. EXCEEDED
MEAN	4871829.68750	1	4871829.68750	4952.87860	.000
U	731.76172	1	731.76172	.74394	.392
ERROR	56067.25195	57	983.63599		
U	2982.92041	1	2982.92041	11.91405	.001
UO	388.99243	1	388.99243	1.55367	.218
ERROR	14271.08862	57	250.36997		
T	3682.98389	8	460.37299	6.22211	.000
TO	460.59863	8	57.57483	.77814	.622
ERROR	33739.37158	456	73.98985		
DT	1343.68311	8	167.96039	2.85307	.004
DTO	1955.50977	8	244.43872	4.15217	.000
ERROR	26844.75488	456	58.87008		

VARIABLE 8: SUBJECTIVE RATING OF DRUG EFFECT

CELL MEANS FOR 1-ST DEPENDENT VARIABLE						
	ORDER	=	A	B	MARGINAL	
	DOSE		TIME			
DRUGEF0	1	1	.20690	.56667	.38983	
DRUGEF5	1	2	3.62069	1.16667	2.37288	
DRUGE10	1	3	6.06897	2.23333	4.11864	
DRUGE20	1	4	3.75862	3.96667	3.86441	
DRUGE40	1	5	2.68966	5.20000	3.96610	
DRUGE60	1	6	4.34483	7.63333	6.01695	
DRUGE80	1	7	4.37931	4.73333	4.55932	
DRUGEC	1	8	1.58621	4.33333	2.98305	
DRUGE12	1	9	1.31034	3.23333	2.28814	
DRUGE02	2	1	-.24138	.60000	.42373	
DRUG52	2	2	2.34483	2.23333	2.28814	
DRUGX2	2	3	3.03448	3.66667	3.35593	
DRUG202	2	4	4.03448	4.83333	4.44068	
DRUG402	2	5	3.58621	3.93333	3.76271	
DRUG602	2	6	4.44828	6.16667	5.32203	
DRUG802	2	7	2.34483	5.03333	3.71186	
DRUGC2	2	8	1.34483	5.46667	3.44068	
DRUG122	2	9	1.41379	2.66667	2.05085	
MARGINAL			2.81992	3.75926	3.29755	
COUNT			29	30	59	
STANDARD DEVIATIONS FOR 1-ST DEPENDENT VARIABLE						
	ORDER	=	A	B		
	DOSE		TIME			
DRUGEF0	1	1	.77364	1.61210		
DRUGEF5	1	2	9.08851	2.24505		
DRUGE10	1	3	10.28845	3.47090		
DRUGE20	1	4	7.45297	7.89798		
DRUGE40	1	5	6.99542	11.28441		
DRUGE60	1	6	8.35069	12.97606		
DRUGE80	1	7	8.44061	10.85939		
DRUGEC	1	8	2.86004	10.75217		
DRUGE12	1	9	2.60636	9.84950		
DRUGE02	2	1	.83045	1.67332		
DRUG52	2	2	6.13698	3.49071		
DRUGX2	2	3	7.40407	6.39145		
DRUG202	2	4	12.39090	7.41426		
DRUG402	2	5	12.37947	7.82980		
DRUG602	2	6	12.91894	9.54511		
DRUG802	2	7	6.66695	7.92849		
DRUGC2	2	8	5.02634	12.20439		
DRUG122	2	9	5.03216	6.14948		

1974 UNIV. MICROFILMS INTL.

VARIABLE 8: SUBJECTIVE RATING OF DRUG EFFECT

ANALYSIS OF VARIANCE FOR 1-ST DEPENDENT VARIABLE - DRUGEF0 DRUGEF5 DRUG10 DRUG20 DRUG40 DRUG60						
DRUG12 DRUG62 DRUG52 DRUGX2 DRUG202 DRUG402						
SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	PROB. F EXCEEDED	
MEAN	11489.03369	1	11489.03369	23.68283	.000	
D	234.19702	1	234.19702	.48276	.490	
ERROR	27651.88306	57	485.12075			
B	10.84869	1	10.84869	.09810	.755	
DD	36.83740	1	36.83740	.33312	.566	
ERROR	6303.31018	57	110.58439			
I	2129.03296	8	266.12912	5.80509	.000	
TD	646.78882	8	79.59860	1.73629	.088	
ERROR	20904.90186	456	45.84408			
UT	62.37329	8	7.79666	.30461	.964	
UTO	263.46973	8	32.93372	1.28668	.248	
ERROR	11671.68394	456	25.59580			

VARIABLE 9: SUBJECTIVE RATING OF "GOOD" EFFECTS

CELL MEANS FOR 1-ST DEPENDENT VARIABLE

	ORDER =		A		B	MARGINAL
	DOSE TIME					
GOOD0	1	1	1.10345	3.10000	2.11864	
GOOD5	1	2	5.00000	3.63333	4.30508	
GOOD10	1	3	6.37931	4.50000	5.42373	
GOOD20	1	4	5.27586	5.50000	5.38983	
GOOD40	1	5	4.58621	4.73333	4.66102	
GOOD60	1	6	3.65517	5.06667	4.37288	
GOOD80	1	7	3.31034	4.03333	3.67797	
GOODC	1	8	1.34483	3.66667	2.52542	
GOOD120	1	9	1.13793	3.40000	2.28814	
GOOD02	2	1	1.27586	2.00000	1.64407	
GOOD52	2	2	3.13793	3.86667	3.50847	
GOODX2	2	3	3.13793	4.30000	3.72881	
GOOD202	2	4	2.48276	4.30000	3.40678	
GOOD402	2	5	2.37931	4.16667	3.28814	
GOOD602	2	6	3.24138	3.06667	3.15254	
GOOD802	2	7	2.93103	2.13333	2.52542	
GOODC2	2	8	5.17241	3.30000	4.22034	
GOOD122	2	9	2.41379	1.50000	1.94915	
MARGINAL			3.22031	3.68148	3.45480	
COUNT			29	30	59	

STANDARD DEVIATIONS FOR 1-ST DEPENDENT VARIABLE

	ORDER =		A		B
	DOSE TIME				
GOOD0	1	1	5.19165	11.57092	
GOOD5	1	2	10.92180	11.38506	
GOOD10	1	3	11.80319	11.67594	
GOOD20	1	4	10.10267	13.26585	
GOOD40	1	5	10.12605	12.93467	
GOOD60	1	6	7.31572	12.93467	
GOOD80	1	7	7.33438	11.61593	
GOODC	1	8	3.75382	11.59171	
GOOD120	1	9	3.19290	11.46389	
GOOD02	2	1	5.42413	8.96353	
GOOD52	2	2	7.75652	9.49313	
GOODX2	2	3	7.39075	11.04583	
GOOD202	2	4	5.81022	10.32957	
GOOD402	2	5	6.29293	9.44707	
GOOD602	2	6	7.97162	6.17522	
GOOD802	2	7	7.85098	4.16664	
GOODC2	2	8	13.98231	6.52396	
GOOD122	2	9	7.15900	2.68778	

ATA DOCUMENTS/INC. 11

VARIABLE 9: SUBJECTIVE RATING OF "GOOD" EFFECTS

ANALYSIS OF VARIANCE FOR 1-ST DEPENDENT VARIABLE - GOOD0						
	GOOD0	GOOD5	GOOD10	GOOD20	GOOD40	GOOD60
	GOOD120	GOOD02	GOOD52	GOODX2	GOOD202	GOOD402
	GOODC2	GOOD122				
SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	PROB. F EXCEEDED	
MEAN	12643.36963	1	12643.36963	21.47020	.000	
D	56.45068	1	56.45068	.09586	.758	
ERROR	33566.15137	57	588.87984			
D	175.11768	1	175.11768	.33650	.564	
DD	9.35498	1	9.35498	.01798	.894	
ERROR	29663.04053	57	520.40421			
T	842.58838	8	105.32355	3.61195	.000	
TD	89.44348	8	11.18044	.38342	.929	
ERROR	13296.84363	456	29.15974			
DT	284.82397	8	35.60300	1.28535	.249	
DTD	381.36621	8	47.67078	1.72103	.091	
ERROR	12630.75549	456	27.69903			

VARIABLE 10: SUBJECTIVE RATING OF "BAD" EFFECTS

CELL MEANS FOR 1-ST DEPENDENT VARIABLE

			MARGINAL		
			ORDER = A		B
			NOISE TIME		
BAND	1	1	.17241	.46667	.32203
*TR*1180 RE-BOOT AT 10:50.....10 MIN.....					
BAD5	1	2	2.44828	1.23333	1.83051
BAD10	1	3	2.51724	1.23333	1.86441
BAD20	1	4	1.75862	2.70000	2.23729
BAD40	1	5	.55172	3.00000	1.79661
BAD60	1	6	1.00000	4.30000	2.67797
BAD80	1	7	1.48276	4.86667	3.20339
BADC	1	8	.93103	2.06667	1.50847
BAD120	1	9	.68966	2.93333	1.83051
BAD02	2	1	1.34483	.56667	.94915
BAD52	2	2	1.65517	2.50000	2.08475
BADX2	2	3	1.89655	5.86667	3.91525
BAD202	2	4	1.44828	6.63333	4.08475
BAD402	2	5	1.58621	4.10000	2.86441
BAD602	2	6	1.55172	6.80000	4.22034
BAD802	2	7	1.51724	4.90000	3.23729
BADC2	2	8	2.44828	6.43333	4.47458
BAD1202	2	9	2.44828	2.93333	2.69492
MARGINAL			1.52490	3.52963	2.54426
COUNT			29	30	59

STANDARD DEVIATIONS FOR 1-ST DEPENDENT VARIABLE

			ORDER = A		B
			NOISE TIME		
BAD0	1	1	.60172	2.02967	
BAD5	1	2	7.69780	2.71247	
BAD10	1	3	7.44322	2.78770	
BAD20	1	4	5.60392	6.87399	
BAD40	1	5	1.18280	8.55812	
BAD60	1	6	1.88982	10.00396	
BAD80	1	7	4.16294	11.05701	
BADC	1	8	1.48639	4.04230	
BAD120	1	9	1.19832	8.42383	
BAD02	2	1	5.78962	1.81342	
BAD52	2	2	5.40685	5.82947	
BADX2	2	3	5.35420	12.08228	
BAD202	2	4	4.88866	12.16489	
BAD402	2	5	5.27472	9.56773	
BAD602	2	6	4.95398	10.43998	
BAD802	2	7	4.92530	9.33422	
BADC2	2	8	7.36103	12.82692	
BAD1202	2	9	7.22884	7.89121	

VARIABLE 10: SUBJECTIVE RATING OF "BAD" EFFECTS

ANALYSIS OF VARIANCE FOR 1-ST DEPENDENT VARIABLE -						
	BAD0	BAD5	BAD10	BAD20	BAD40	BAD60
	BAD120	BAD02	BAD52	BADX2	BAD202	BAD402
	BADC2	BAD1202				
SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	PROB. F EXCEEDED	
MEAN	6781.12646	1	6781.12646	18.06776	.000	
O	1066.71753	1	1066.71753	2.84218	.097	
ERROR	21393.03198	57	375.31635			
D	406.58685	1	406.58685	3.30967	.074	
DD	151.26483	1	151.26483	1.23131	.272	
ERROR	7002.35510	57	122.84833			
T	699.71265	8	87.46408	3.20061	.002	
TD	572.05566	8	71.50696	2.61669	.008	
ERROR	12461.23889	456	27.32728			
DT	202.83606	8	25.35451	1.16983	.316	
DTD	335.47986	8	41.93498	1.93483	.053	
ERROR	9983.20129	456	21.67369			

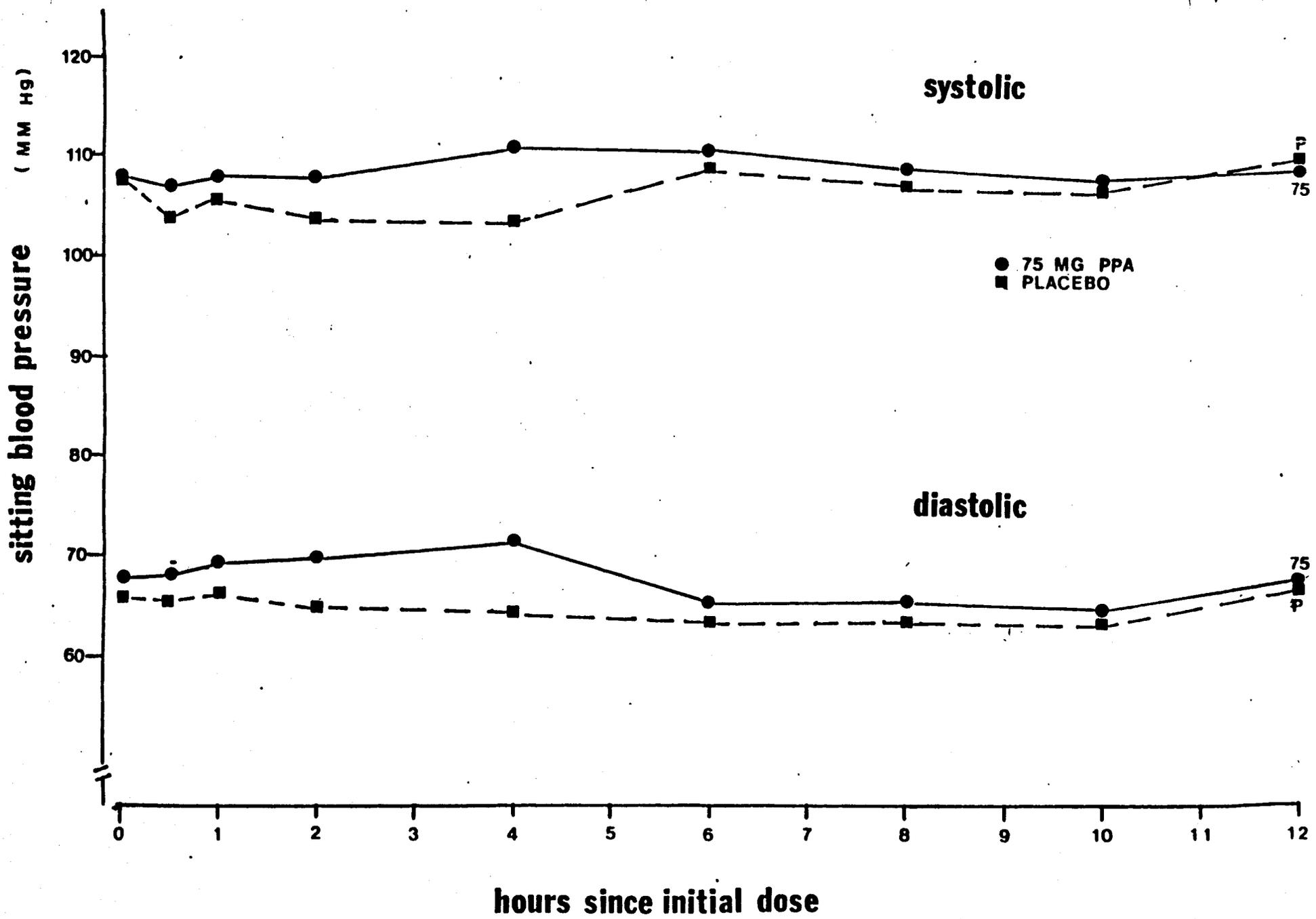
VARIABLE 11: SUBJECTIVE RATING OF "DRUG LIKING"

CELL MEANS FOR 1-ST DEPENDENT VARIABLE						
	ORDER =		A		B	MARGINAL
	DOSE	TIME				
LINE0	1	1	28.93103	31.00000	29.98305	
LINE5	1	2	29.58621	31.10000	30.35593	
LINE10	1	3	29.72414	31.56667	30.66102	
LINE20	1	4	29.20690	31.60000	30.42373	
LINE40	1	5	30.34483	29.96667	30.15254	
LINE60	1	6	31.00000	28.50000	29.72681	
LINE80	1	7	30.62069	28.76667	29.67797	
LINEC	1	8	28.96552	29.56667	29.27119	
LINE120	1	9	30.96552	28.16667	29.54237	
LINE02	2	1	29.93103	32.20000	31.08475	
LINE52	2	2	29.93103	29.93333	29.93220	
LINEX2	2	3	29.93103	28.40000	29.15254	
LINE202	2	4	29.96552	27.26667	28.59322	
LINE402	2	5	31.03448	29.93333	30.47458	
LINE602	2	6	32.31034	30.40000	31.33898	
LINE802	2	7	31.06897	30.43333	30.74576	
LINEC2	2	8	32.17241	30.60000	31.37288	
LINE122	2	9	31.93103	29.96667	30.93220	
MARGINAL			30.42337	29.96481	30.19021	
COUNT			29	30	59	

STANDARD DEVIATIONS FOR 1-ST DEPENDENT VARIABLE					
	ORDER =		A		B
	DOSE	TIME			
LINE0	1	1	7.74104	2.26261	
LINE5	1	2	8.59617	4.40258	
LINE10	1	3	8.58527	2.32947	
LINE20	1	4	7.61755	2.94314	
LINE40	1	5	10.08987	6.07132	
LINE60	1	6	7.82852	7.56922	
LINE80	1	7	6.51589	5.50537	
LINEC	1	8	8.07325	4.38401	
LINE120	1	9	8.31729	7.64327	
LINE02	2	1	5.75656	5.67146	
LINE52	2	2	5.76276	6.26943	
LINEX2	2	3	6.19292	7.38405	
LINE202	2	4	5.77855	8.31257	
LINE402	2	5	8.28718	8.83540	
LINE602	2	6	9.83472	12.85892	
LINE802	2	7	8.30633	10.74688	
LINEC2	2	8	10.08589	13.61186	
LINE122	2	9	9.40718	11.69876	

VARIABLE 11: SUBJECTIVE RATING OF "DRUG LIKING"

ANALYSIS OF VARIANCE FOR 1-ST DEPENDENT VARIABLE - LIKE0						
LIKE120 LIKE122						
LIKES						
LIKE10						
LIKE20						
LIKE40						
LIKE60						
LIKE120 LIKE122						
LIKE02						
LIKE52						
LIKEX2						
LIKE202						
LIKE402						
SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	PROB. F EXCEEDED	
MEAN	967929.20312	1	967929.20312	2007.51176	.000	
0	55.81177	1	55.81177	.11576	.735	
ERROR	27482.76025	57	482.15369			
D	50.23804	1	50.23804	.44295	.508	
DD	82.43018	1	82.43018	.72680	.397	
ERROR	6164.69690	57	113.41573			
T	97.28516	8	12.16064	.31094	.962	
TD	480.75757	8	60.09470	1.53660	.192	
ERROR	17833.62622	456	39.10883			
DT	450.32056	8	56.29007	2.01950	.043	
DTO	267.11157	8	33.38895	1.19788	.298	
ERROR	12710.21533	456	27.87328			



MARK THE LINES TO INDICATE HOW YOU FEEL:

● 75mg SUSTAINED RELEASE
■ PLACEBO

SUMMARY OF MOOD EFFECTS OF PPA CROSSOVER

I.D. _____ DATE _____ NAME _____

HOUR/TIME	ARE THERE ANY DRUG EFFECTS?		ARE THERE GOOD EFFECTS?		ARE THERE ANY BAD EFFECTS?		DO YOU LIKE OR DISLIKE THE EFFECTS?		
	NONE	A LOT	NONE	A LOT	NONE	A LOT	DISLIKE	NEUTRAL	LIKE
0	●		■		●			■	
1/2	■		■		■			■	
1	■		■		■			■	
2	■		■		■			■	
4	■		■		■			■	
6	■		■		■			■	
8	■		■		■			■	
10	■		■		■			■	
12	■		■		■			■	

FINAL REPORT OF
CLINICAL PROTOCOL NO. 82-8(A)

An Evaluation of the Acute Effects of
Phenylpropanolamine in Normal Volunteers:
Parallel Groups Design

Sponsor: Thompson Medical Company, Inc.
919 Third Avenue
New York, NY 10022

Investigators: Ira Liebson
George Bigelow
Roland Griffiths
Frank Funderburk

Protocol developed by: The Clinical Consulting Group
ANTECH, Inc. and the
Behavioral Pharmacology Research Unit

Contact: Frank Funderburk
(301) 997-0880

Project start date: 25 June 82

Project completion date: 31 August 82

TABLE OF CONTENTS

ABSTRACT	
INTRODUCTION	2
OBJECTIVE	2
RATIONALE	3
INVESTIGATIVE METHODS	3
Subjects	3
Design and Procedure	4
1. General Procedures	4
a. Subject control	4
b. Meals and food restrictions	5
c. Drug administration	5
d. Clinical measurements	6
2. Design	6
RESULTS	6
DISCUSSION	8
REFERENCES	10
APPENDIX	12
FIGURES	35

ABSTRACT

One hundred fifty (150) healthy normotensive volunteers (mean age = 25.9) participated in a double-blind, placebo controlled comparison of the effects of phenylpropanolamine HCL on blood pressure, pulse, and mood. Two dosage forms of phenylpropanolamine were studied (75 mg sustained release and 25 mg t.i.d.) in comparison with placebo. Subjects were randomly assigned to one of the three drug treatment conditions. Subjects in one group (Group A) received the 75 mg sustained release dose on their first medication occasion and placebo capsules on the other two dosing occasions. Subjects in another group received 25 mg capsules at each medication occasion (Group B). Subjects in the other group (Group C) received placebo at each medication occasion. Subjects were studied for a 12 hour testing session.

Measurements of blood pressure (sitting, standing, and supine), pulse, and subjective drug effect ("mood") were obtained 9 times during the session at baseline (prior to drug administration) and at 1/2 hr, 1 hr, 2 hr, 4 hr, 6 hr, 8 hr, 10 hr, and 12 hr post initial dosing.

Mixed design analysis of variance revealed no main effects for drug treatment on any of the measures. As expected, all measures showed main effects for time of day (circadian effects), indicating that subjects' physiological and subjective state changed over the course of the session. These changes were not, however, related to the drug treatment condition.

Final Report:
An Evaluation of the Acute Effects of
Phenylpropanolamine in Normal Volunteers:
Parallel Groups Design

INTRODUCTION

Phenylpropanolamine hydrochloride (PPA) is a synthetic compound with actions similar to ephedrine. However, PPA is generally believed to produce less CNS stimulation than ephedrine. PPA is currently marketed over-the-counter (OTC) in the United States both as a nasal decongestant and as a weight control aid. Recently FDA and others have raised questions about the safety and appropriateness of OTC availability of PPA (Federal Register, Vol. 47, No. 39, 1982). In their publication, the agency requested additional information on the effects of PPA on a variety of safety parameters including blood pressure, pulse, and self-reported side effects. The present project was designed to provide such information.

OBJECTIVE

The proposed research aimed to provide an objective characterization of the effects of PPA on various behavioral and physiological parameters over a 12 hour testing session.

RATIONALE

PPA has been used as an anorexiant for over 40 years and has long been an ingredient in many over-the-counter cough-cold products (see, e.g., Silverman, 1980). Recently, however, some reports have appeared suggesting that PPA--generally in doses higher than those approved for over-the-counter use in the United States--may be associated with adverse hypertensive effects or other amphetamine-like side effects (e.g., Horowitz, 1980; Dietz, 1981).

Silverman et al. (1980) reported no adverse hypertensive effects of a 25 mg dose of PPA either alone or in combination with 100 mg of caffeine. Hoebel (paper in preparation, 1982) noted no adverse hypertensive effects of 150 mg PPA (75 mg b.i.d.) in a group of six normotensive individuals.

The present study was undertaken to extend the examination of PPA effects on blood pressure, pulse, and subjective state in a large, carefully controlled clinical investigation.

INVESTIGATIVE METHODS

Subjects

Subjects were 150 healthy normal volunteers (mean age = 25.9) (both male and female). The study population consisted of 83 caucasians, 63 blacks, 3 orientals, and 1 American Indian. Approximately 58% of the subjects were men. All had given informed consent and had been screened to meet the following criteria:

- a. between 18 and 55 years of age
- b. no current use of medications which would compromise the validity of the evaluation of the test products
- c. no physical contraindications to consumption of PPA at the dose levels used in this study
- d. no history of severe emotional disturbance, chronic alcoholism, or drug abuse
- e. evidence that the subject would participate in the research and be cooperative
- f. good general health based on a medical history interview conducted within one month of the study start and a recent physical examination
- g. female subjects certified that they were not pregnant or nursing a baby for the duration of the study.

Design and Procedure

Subjects were randomly assigned to one of three treatment groups upon entry into the study. The basic investigative procedures followed for each subject are detailed below.

1. General Procedures

- a. Subject control. Subjects were instructed to be free of all medications for the week prior to the first administration of a test product. Subjects who had ingested substances which could have compromised the validity of the study were excluded. Study medications were administered under clinical supervision. Subjects remained at the test facility for the entire testing period (approximately 13 hours) on the test day.

b. Meals and food restrictions. On test days subjects were provided with a choice of standard noontime meals. Foods containing xanthines (e.g., coffee, tea, cola) were not permitted on study days.

c. Drug administration. In this investigation two currently marketed doses of test products containing PPA (PPA, 25 mg, t.i.d. and 75 mg sustained release PPA) were being compared with placebo. On each test day subjects received three administrations of a test product. Study medications were identical in appearance and were labeled in code so that neither the investigator nor the subject could know which medication was being administered. Doses were given at 4 hour intervals (e.g., approximately 8:00 am, 12 noon, and 4:00 pm).

Subjects were randomly assigned to one of three treatment conditions. One group of subjects (Condition A) received the 75 mg sustained release product at their first dosing and matching placebo capsules on subsequent dosings. Another group of subjects (Condition B) received 25 mg PPA at each of the three dosings. Finally, one group (Condition C) received placebo at all three dosings. This dosing schedule is illustrated in Table 1.

Table 1

Dosing Schedule on a Test Day

	Dose 1 (<u>approx. 8:00 am</u>)	Dose 2 (<u>approx. 12 noon</u>)	Dose 3 (<u>approx. 4:00 pm</u>)
Condition A	75 mg sustained	placebo	placebo
Condition B	25 mg PPA	25 mg PPA	25 mg PPA
Condition C	placebo	placebo	placebo

d. Clinical measurements. Measures of blood pressure and pulse were obtained 9 times during each experimental session: Once prior to initial drug administration (0 hr) and at 1/2 hr, 1 hr, 2 hr, 4 hr, 6 hr, 8 hr, 10 hr, and 12 hr following initial drug administration. Blood pressure (sitting, standing, supine) was measured using procedures recommended by the American Heart Association (Kirkendall et al., 1980). Clinical measures of subjective state were obtained using visual analogue mood-scales on which subjects indicated the extent to which they felt a drug effect and their subjective impression of that drug effect. These measures were supplemented by subjective reports of subjects and the observations of research staff.

2. Design

This study may be viewed as a 3 (drug treatment conditions) x 9 (measurement occasions) mixed design. Mixed design analysis of variance procedures were used to evaluate data from this component of the study. Separate analyses were conducted for each of the dependent variables. Factors in the analysis were drug treatment assignment (Condition A vs B vs C) and measurement occasion (0 hr, 1/2 hr, etc.). Treatment assignment was a between-groups factor while measurement occasion was a within-subjects factor. For all tests involving repeated measures factors, a conservative F test was used in evaluating statistical significance (see, e.g., Geisser & Greenhouse, 1958).

RESULTS

Specific results of the analysis of variance for each of the variables studied are summarized below.

Pulse tended to increase slightly over the course of the session ($F = 16.67$, $p < .01$) for subjects in all treatment conditions. No main effect for drug treatment was identified.

Standing systolic blood pressure was generally higher later in the session ($F = 4.34$, $p < .05$) for subjects in all treatment groups. This trend was more marked for subjects in the placebo group ($F = 3.39$, $p < .05$). No main effect for drug treatment condition was identified. Standing diastolic blood pressure was generally lowest at 8-10 hours post initial medication for subjects in all treatment groups ($F = 13.80$, $p < .01$). No main effects for drug treatment was identified.

Sitting systolic blood pressure was generally lowest at 1-4 hours post medication ($F = 4.01$, $p < .05$). Subjects in the 75 mg sustained release treatment group tended to show decreased sitting systolic blood pressure later in the session as compared with subjects in the 25 mg t.i.d. or placebo groups ($F = 3.65$, $p < .05$). Sitting diastolic blood pressure was generally lower at 4-8 hours post dosing for subjects in all treatment groups ($F = 11.22$, $p < .01$). No main effect for drug treatment was identified. These results are shown in Figure 1 (attached).

Supine systolic blood pressure was generally higher later in the session ($F = 11.09$, $p < .01$). This increase tended to be largest in the placebo treatment group ($F = 4.44$, $p < .05$). No main effect for drug condition was identified. Supine diastolic blood pressure tended to be lowest at 6-10 hours post initial dosing ($F = 17.70$, $p < .01$). No main effect for drug condition was identified.

Subjective measures of drug effect and mood revealed no significant differences between the three drug conditions. There were, however, significant changes in mood over the course of the session. These included measures of "drug effect" ($F = 8.53, p < .01$), ratings of feeling "good" ($F = 6.35, p < .01$), ratings of feeling "bad" ($F = 5.30, p < .01$), and ratings of drug liking ($F = 5.30, p < .01$) over the course of the session. In general, subjects in all treatment groups (including placebo) reported feeling better (more pleasurable) early in the session and more dysphoric later in the session. These variations in subjective state, although statistically reliable, were very small and were not considered clinically relevant. Figure 2 illustrates these effects.

Summary tables of means, standard deviations and analysis of variance results for each variable studied are presented in the Appendix to this report.

DISCUSSION

The present study evaluated the acute effects of two dosage forms of phenylpropanolamine (75 mg sustained release, 25 mg t.i.d.) in comparison with placebo. Measures of drug effect on pulse, blood pressure (sitting, standing, and supine) and subjective state ("mood") were obtained over a 12-hour testing period.

No significant main effects for drug treatment were observed on any of the measures. Differences in blood pressure between drug treatment groups was very small. No consistent pattern of differences between drug treatments was observed. On some measurement occasions, subjects receiving active drug

treatments showed higher mean blood pressures than did subjects receiving placebo treatment. On other occasions, this effect was reversed. No statistically significant differences between drug treatments were found on any of the measurement occasions.

As expected, statistically significant differences in blood pressure were found over the course of the daily session. Circadian variation of blood pressure is well documented (see, e.g., Millar-Craig, Bishop, & Raftey, 1978). Our results are consistent with this literature.

The present results also suggest that PPA, in the dosage forms studied, had no systematic effect on subjective ratings of drug effect or drug liking. No statistically reliable differences between drug treatments were observed on measures of drug effect or drug liking. The effects of the two PPA treatments were not rated as any better or any worse than that of the placebo. This finding is consistent with that of Seppala, Nuotto, and Korttila (1981) in that no significant euphoric effects were noted for subjects treated with PPA. As was the case with blood pressure, subjective state ("mood") showed circadian changes over the course of the session. In general, subjects in all treatment groups reported feeling "better" early in the session as compared with later in the session.

Overall, the present findings suggest that phenylpropanolamine (in the dosage forms studied) is not associated with adverse effects on blood pressure, pulse, or mood.

REFERENCES

- Dietz, A. J. Amphetamine-like reactions to phenylpropanolamine. Journal of the American Medical Association, 1981, 245, 601-602.
- Federal Register, Vol. 47, No. 39, 1982.
- Geisser, S., & Greenhouse, S. W. An extension of Box's results on the use of the F distribution in multivariate analysis. Annals of Mathematical Statistics, 1958, 29, 885-891.
- Hoebel, B. G. Effects of phenylpropanolamine (75 mg b.i.d.) on normotensive volunteers. Personal communication, Thompson Medical Company. Abstract to be published in Philadelphia Medicine, 1982.
- Horowitz, J. D. et al. Hypertensive responses induced by phenylpropanolamine in anorectic and decongestant preparations. Lancet, 1980, Jan 12, 60-61.
- Kirkendall, W. M. et al. Recommendations for human blood pressure determination by sphygmomanometers. Report of the Postgraduate Education Committee, American Heart Association, 1980.
- McNair, D. M. et al. Edits manual for the Profile of Mood States. San Diego, California: Educational and Industrial Testing Service, 1971.
- Millar-Craig, M. W., Bishop, C. N., & Rafferty, E. B. Circadian variation of blood pressure. Lancet, 1978, April 15, 795-796.

Seppala, T., Nuotta, E., & Korttila, K. Single and repeated dose comparisons of three antihistamines and phenylpropanolamine: Psychomotor performance and subjective appraisals of sleep. British Journal of Clinical Pharmacology, 1981, 12, 179-188.

Silverman, H. I., et al. Lack of side effects from orally administered phenylpropanolamine and phenylpropanolamine with caffeine: A controlled three phase study. Current Therapeutic Research, 1980, 28, 185-194.

APPENDIX

KEY:

C = DRUG CONDITION (HI=75MG SUSTAINED RELEASE; LO=25MG T.I.D.;
P=PLACEBO)

R = REPEATED MEASUREMENT OCCASIONS (1=BASELINE; 2=30 MINUTES;
3=1 HOUR; 4=2 HOUR; 5=4 HOUR; 6=6 HOUR; 7=8 HOUR; 8=10 HOUR;
9=12 HOUR).

FOR EACH VARIABLE STUDIED, MEANS AND STANDARD DEVIATIONS AT EACH MEASUREMENT OCCASION ARE PRESENTED IN ONE TABLE, WHILE ANALYSIS OF VARIANCE RESULTS ARE PRESENTED IN ANOTHER. A CONSERVATIVE E-TEST WAS USED TO EVALUATE THE RESULTS OF ALL FACTORS INVOLVING REPEATED MEASURES.

**EFFECTS OF PHENYLPROPANOLAMINE ON BLOOD PRESSURE,
PULSE, AND MOOD:
PARALLEL GROUPS DESIGN**

Study Site: Behavioral Pharmacology Research Unit
Johns Hopkins University School of Medicine
Baltimore City Hospitals D-5-West
4940 Eastern Avenue
Baltimore, Maryland 21224

Contact: Frank R. Funderburk
Director, Clinical Consulting
ANTECH, Inc.
(301) 997-0880

Date: October 8, 1982

VARIABLE 1: PULSE

CELL MEANS FOR 1-ST DEPENDENT VARIABLE

COND		=	HI	LO	F	MARGINAL
	R					
PUL0	1		76.20000	77.92000	76.08000	76.73333
PUL5	2		75.52000	77.40000	75.16000	76.36000
PUL10	3		74.76000	77.08000	76.44000	76.09333
PUL20	4		76.36000	77.12000	75.88000	76.45333
PUL40	5		74.28000	77.08000	74.84000	75.40000
PUL60	6		81.48000	83.64000	84.20000	83.10667
PUL80	7		77.60000	80.08000	80.72000	79.46667
PULC	8		74.76000	77.32000	78.04000	76.70667
PUL120	9		73.72000	79.56000	77.84000	77.04000
MARGINAL.			76.07556	78.57778	77.80000	77.48444
COUNT			50	50	50	150

STANDARD DEVIATIONS FOR 1-ST DEPENDENT VARIABLE

COND		=	HI	LO	F
	R				
PUL0	1		10.23200	10.02006	10.11735
PUL5	2		11.76338	10.03370	10.49657
PUL10	3		10.64369	8.41000	11.78924
PUL20	4		11.04861	9.42566	11.69273
PUL40	5		10.31749	9.39135	11.78785
PUL60	6		11.53387	11.06338	13.59622
PUL80	7		11.05822	10.93924	11.97112
PULC	8		10.06014	10.57542	12.54861
PUL120	9		9.84790	9.80037	12.21468

VARIABLE 1: PULSE

ANALYSIS OF VARIANCE FOR 1-ST DEPENDENT VARIABLE -- PULO PUL5 PUL10 PUL20 PUL40 PUL60 PUL120						
SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	PROB. F EXCEEDED	
MEAN	8105174.37500	1	8105174.37500	12334.66577	.000	
C	1475.98340	2	737.99170	1.12310	.328	
ERROR	96594.48047	147	657.10531			
R	4826.92969	3	1608.97656	16.67249	.000	
RC	799.23340	16	49.95209	.97593	.481	
ERROR	30192.47119	1176	25.71736			

VARIABLE 2: STANDING SYSTOLIC BLOOD PRESSURE

CELL MEANS FOR 2-ND DEPENDENT VARIABLE					
COND	R	HI	LO	F	MARGINAL
STBPS0	1	99.44000	97.80000	99.52000	98.92000
STBPS5	2	99.72000	97.20000	97.72000	98.28000
STBPS10	3	100.08000	97.84000	98.36000	98.76000
STBPS20	4	100.20000	97.00000	98.54000	98.58000
STBPS40	5	100.76000	95.24000	101.04000	97.01333
STBPS60	6	101.08000	97.92000	103.00000	100.66667
STBPS80	7	96.12000	96.80000	100.48000	97.83333
STBPS8	8	96.84000	99.60000	104.52000	100.25333
STBPS12	9	99.32000	100.56000	106.56000	102.14667
MARGINAL		99.26222	97.78444	101.10444	99.38370
COUNT		50	50	50	150
STANDARD DEVIATIONS FOR 2-ND DEPENDENT VARIABLE					
COND	R	HI	LO	F	
STBPS0	1	12.50659	12.32672	14.32107	
STBPS5	2	13.46202	12.10161	15.84484	
STBPS10	3	12.11482	12.30125	15.73085	
STBPS20	4	12.31723	11.92665	19.24197	
STBPS40	5	13.95556	12.01964	15.35559	
STBPS60	6	13.37530	12.71074	16.70024	
STBPS80	7	13.25055	12.26285	14.47057	
STBPS8	8	13.13877	13.09060	15.06346	
STBPS12	9	17.10763	14.60243	15.88756	

VARIABLE 2: STANDING SYSTOLIC BLOOD PRESSURE

ANALYSIS OF VARIANCE FOR 2-NO DEPENDENT VARIABLE -- STP50 STP55 STP510 STP520 STP540 STP5
STP512

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	PROB. F EXCEEDED
MEAN	13334097.00000	1	13334097.00000	10210.83582	.000
C	2489.95898	2	1244.97949	.95337	.388
ERROR	171963.93750	147	1305.87712		
R	2256.77140	8	282.09644	4.34381	.000
RC	3510.25977	16	219.39124	3.38595	.000
ERROR	76372.04004	1176	64.94221		

VARIABLE 3: STANDING DIASTOLIC BLOOD PRESSURE

CELL MEANS FOR 3-RD DEPENDENT VARIABLE

COND		R	HI	LO	P	MARGINAL
STBPD0	1		66.96000	62.80000	63.36000	64.37333
STBPD5	2		65.76000	63.90000	64.40000	64.75333
STBPD10	3		65.76000	63.08000	65.24000	64.69333
STBPD20	4		66.00000	63.20000	63.76000	64.38667
STBPD40	5		65.24000	61.52000	63.56000	63.44000
STBPD60	6		61.34000	60.08000	60.72000	60.31333
STBPD80	7		58.92000	60.12000	59.84000	59.62667
STBPD8	8		61.12000	61.76000	61.52000	61.53333
STBPD12	9		64.68000	64.56000	64.40000	64.54667
MARGINAL			64.03111	62.35778	63.00000	63.12763
COUNT			50	50	50	150

STANDARD DEVIATIONS FOR 3-RD DEPENDENT VARIABLE

COND		R	HI	LO	P
STBPD0	1		11.58634	8.12153	11.04854
STBPD5	2		11.40347	10.21054	12.30943
STBPD10	3		10.13895	8.94619	12.38755
STBPD20	4		11.32092	8.70374	11.69329
STBPD40	5		10.65902	8.56724	12.19093
STBPD60	6		10.60373	9.95467	13.15378
STBPD80	7		10.25559	7.93247	12.07199
STBPD8	8		10.72217	11.29558	12.45767
STBPD12	9		11.69413	10.23033	14.12481

VARIABLE 3: STANDING DIASTOLIC BLOOD PRESSURE

ANALYSIS OF VARIANCE FOR 3-RD DEPENDENT VARIABLE -- STBPD0 STBPD5 STBPD10 STBPD20 STBPD40 STBPD
STBPD12

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	PROB. F EXCEEDED
MEAN	5380216.62500	1	5380216.62500	6976.24384	.000
C	641.33887	2	320.66943	.41580	.661
ERROR	113369.29492	147	771.21969		
R	4574.54639	8	571.81830	13.79514	.000
RC	862.95117	16	53.93445	1.30117	.188
ERROR	48746.03076	1176	41.45071		

VARIABLE 4: SITTING SYSTOLIC BLOOD PRESSURE

CELL MEANS FOR 4-TH DEPENDENT VARIABLE						
COND	R	MI	LO	P	MARGINAL	
SIBPS0	1	107.72000	107.80000	109.00000	108.17333	
SIBPS5	2	107.58000	107.58000	105.84000	107.00000	
SIBPS10	3	107.22000	106.96000	106.96000	107.04667	
SIBPS20	4	106.52000	105.44000	106.16000	106.04000	
SIBPS40	5	108.84000	104.04000	105.16000	106.01333	
SIBPS60	6	110.96000	106.23000	110.12000	109.12000	
SIBPS80	7	106.56000	104.12000	108.24000	106.30667	
SIBPSC	8	105.16000	109.96000	108.48000	107.86667	
SIBPS12	9	105.40000	110.44000	111.92000	109.25333	
MARGINAL		107.32889	106.95778	107.98667	107.42444	
COUNT		50	50	50	150	
STANDARD DEVIATIONS FOR 4-TH DEPENDENT VARIABLE						
COND	R	MI	LO	P		
SIBPS0	1	12.02725	11.34433	14.90788		
SIBPS5	2	11.93654	10.75089	14.45522		
SIBPS10	3	12.45283	10.89647	14.93518		
SIBPS20	4	11.21085	11.72443	15.34815		
SIBPS40	5	14.83564	11.74206	14.92342		
SIBPS60	6	13.01327	11.11726	16.20790		
SIBPS80	7	13.78576	11.43864	16.07452		
SIBPSC	8	12.41520	13.13347	15.02412		
SIBPS12	9	14.74823	12.68320	14.88437		

VARIABLE 4: SITTING SYSTOLIC BLOOD PRESSURE

ANALYSIS OF VARIANCE FOR 4-TH DEPENDENT VARIABLE - SIBPS0 SIBPS5 SIBPS10 SIBPS20 SIBPS40 SIBPS
SIBPS12

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	PROB. F EXCEEDED
MEAN	15578997.25000	1	15578997.25000	13602.24463	.000
C	244.33594	2	122.16797	.10667	.899
ERROR	160362.04570	147	1145.32547		
R	1868.45312	8	233.55664	4.01151	.000
RC	3395.40430	16	212.21277	3.64492	.000
ERROR	60460.55176	1176	50.22156		

VARIABLE 5: SITTING DIASTOLIC BLOOD PRESSURE

CELL MEANS FOR 5-TH DEPENDENT VARIABLE

COND	R	HI	LO	P	MARGINAL
SIBPD0	1	68.00000	69.96000	68.36000	68.77333
SIBPD5	2	68.04000	68.96000	67.28000	68.09333
SIBPD10	3	68.60000	68.56000	67.16000	68.10667
SIBPD20	4	69.68000	69.16000	67.70000	68.84667
SIBPD40	5	70.28000	65.64000	64.76000	66.89333
SIBPD60	6	65.12000	65.44000	63.32000	64.62667
SIBPD80	7	64.24000	64.24000	63.64000	64.04000
SIBPDC	8	66.24000	68.72000	63.40000	66.12000
SIBPD12	9	67.32000	70.76000	67.44000	68.50667
MARGINAL		67.50222	67.93778	65.89556	67.11185
COUNT		50	50	50	150

STANDARD DEVIATIONS FOR 5-TH DEPENDENT VARIABLE

COND	R	HI	LO	P
SIBPD0	1	8.04071	8.42242	10.66514
SIBPD5	2	11.46772	9.66576	12.63465
SIBPD10	3	8.92829	8.79740	10.18274
SIBPD20	4	10.73890	10.15062	12.35239
SIBPD40	5	10.64461	8.73828	10.79599
SIBPD60	6	9.77096	8.99015	12.16626
SIBPD80	7	12.09918	7.34725	9.73686
SIBPDC	8	10.34617	7.02387	10.14386
SIBPD12	9	10.92916	8.55131	11.62713

VARIABLE 5: SITTING DIASTOLIC BLOOD PRESSURE

ANALYSIS OF VARIANCE FOR 5-TH DEPENDENT VARIABLE -- SIBPD0 SIBPD5 SIBPD10 SIBPD20 SIBPD40 SIBPD12					
SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	PROB. F EXCEEDED
MEAN	6080394.56250	1	6080394.56250	10388.65442	.000
SYSTEM WARNING - MAX PAGES					
C	1041.27734	2	520.63867	.88954	.413
ERROR	86037.09844	147	585.29182		
R	3946.87451	8	493.35931	11.22334	.000
RC	1422.98682	16	89.23668	2.02320	.010
ERROR	51694.99854	1176	43.95833		

VARIABLE 6: SUPINE SYSTOLIC BLOOD PRESSURE

CELL MEANS FOR 6-TH DEPENDENT VARIABLE

COND	#	HI	LO	P	MARGINAL
	R				
SUBPS0	1	108.54000	111.12000	110.52000	110.06000
SUBPS5	2	110.38000	111.34000	109.36000	110.56000
SUBPS10	3	111.96000	111.52000	109.96000	111.14667
SUBPS20	4	112.64000	112.74000	110.74000	112.04000
SUBPS40	5	116.84000	110.24000	111.24000	112.77333
SUBPS60	6	115.22000	113.92000	116.56000	115.23333
SUBPS80	7	111.12000	112.96000	115.00000	113.02667
SUBPSC	8	111.76000	118.04000	114.96000	114.92000
SUBPS12	9	112.40000	116.24000	120.08000	116.24000
MARGINAL		112.35111	113.12444	113.19111	112.88889
COUNT		50	50	50	150

STANDARD DEVIATIONS FOR 6-TH DEPENDENT VARIABLE

COND	#	HI	LO	P
	R			
SUBPS0	1	11.27252	13.22434	13.07941
SUBPS5	2	12.35931	12.34142	14.98518
SUBPS10	3	11.14278	11.73559	11.24488
SUBPS20	4	11.64397	12.37643	15.05203
SUBPS40	5	14.80259	12.34629	13.73742
SUBPS60	6	12.12063	10.52054	13.57092
SUBPS80	7	14.09681	10.64637	12.82377
SUBPSC	8	11.84002	11.74206	13.56008
SUBPS12	9	12.44088	12.70475	17.88380

VARIABLE 6: SUPINE SYSTOLIC BLOOD PRESSURE

ANALYSIS OF VARIANCE FOR 6-TH DEPENDENT VARIABLE -- SUBPS0 SUBPS5 SUBPS10 SUBPS20 SUBPS40 SUBP
SUBPS12

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	PROB. F EXCEEDED
MEAN	17204248.00000	1	17204248.00000	17563.70898	.000
C	196.21875	2	98.10937	.10016	.905
ERROR	143991.48047	147	979.53387		
R	5709.95410	8	713.74426	11.09191	.000
RC	4572.07422	16	285.75464	4.44076	.000
ERROR	75673.48242	1176	64.34820		

VARIABLE 7: SUPINE DIASTOLIC BLOOD PRESSURE

CELL MEANS FOR 7-TH DEPENDENT VARIABLE

					MARGINAL
COND	R	HI	LO	P	
SUBPD0	1	66.52000	69.36000	67.96000	67.94667
SUBPD5	2	69.36000	71.08000	69.16000	69.96667
SUBPD10	3	70.32000	72.04000	69.64000	70.66667
SUBPD20	4	72.08000	72.44000	69.00000	71.17333
SUBPD40	5	72.12000	69.60000	67.28000	69.66667
SUBPD60	6	66.32000	68.44000	63.38000	66.21333
SUBPD80	7	64.20000	67.88000	64.52000	65.53333
SUBPDC	8	68.44000	72.76000	66.36000	69.13667
SUBPD12	9	69.92000	73.76000	72.04000	71.90667
MARGINAL		68.84222	70.81778	67.76000	69.14000
COUNT		50	50	50	150

STANDARD DEVIATIONS FOR 7-TH DEPENDENT VARIABLE

COND	R	HI	LO	P
SUBPD0	1	11.31234	9.49707	10.32129
SUBPD5	2	10.15715	10.30597	12.22771
SUBPD10	3	9.50497	9.90147	9.62726
SUBPD20	4	10.38020	10.22434	10.91152
SUBPD40	5	13.85882	10.05292	9.86240
SUBPD60	6	11.90685	8.86412	11.10550
SUBPD80	7	11.22133	9.47960	10.70426
SUBPDC	8	11.50184	9.58647	11.55424
SUBPD12	9	11.74532	10.64177	14.10451

VARIABLE 7: SUPINE DIASTOLIC BLOOD PRESSURE

ANALYSIS OF VARIANCE FOR 7-TH DEPENDENT VARIABLE -- SUBPD0 SUBPD5 SUBPD10 SUBPD20 SUBPD40 SUBP						
SUBPD12						
SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	PROB. F EXCEEDED	
MEAN	6453451.75000	1	6453451.75000	10579.21545	.000	
C	2143.63477	2	1081.81738	1.77344	.173	
ERROR	89671.01055	147	610.01231			
R	5711.99512	8	713.99939	12.70422	.000	
RC	1605.79297	16	100.36206	1.70575	.028	
ERROR	66093.28320	1176	56.20177			

VARIABLE 8: SUBJECTIVE RATING OF DRUG EFFECT

CELL MEANS FOR 8-TH DEPENDENT VARIABLE

					MARGINAL
COND	R	HI	LO	P	
DRUGEFO	1	.48000	.64000	1.18000	.76667
DRUGEFS	2	4.16000	4.92000	3.28000	4.12000
DRUGE10	3	5.52000	6.46000	4.76000	5.58000
DRUGE20	4	3.88000	7.16000	5.84000	5.62667
DRUGE40	5	2.96000	6.04000	3.38000	4.12667
DRUGE60	6	5.46000	8.70000	4.50000	6.22000
DRUGE80	7	3.94000	8.74000	5.06000	5.91333
DRUGE C	8	2.50000	6.34000	4.78000	4.54000
DRUGE12	9	2.48000	4.84000	2.50000	3.27333
MARGINAL		3.43667	5.93222	3.92000	4.46296
COUNT		50	50	50	150

STANDARD DEVIATIONS FOR 8-TH DEPENDENT VARIABLE

COND	R	HI	LO	P
DRUGEFO	1	1.11098	2.45581	4.19275
DRUGEFS	2	9.24134	8.23343	6.54042
DRUGE10	3	11.57802	10.11406	9.88414
DRUGE20	4	10.23328	12.23137	11.35756
DRUGE40	5	8.14902	12.45721	7.35372
DRUGE60	6	11.29123	14.77484	8.46180
DRUGE80	7	8.11250	15.12102	10.19686
DRUGE C	8	4.77902	13.37620	10.33972
DRUGE12	9	5.36519	12.64808	6.29626

VARIABLE 8: SUBJECTIVE RATING OF DRUG EFFECT

ANALYSIS OF VARIANCE FOR 8-TH DEPENDENT VARIABLE - DRUGE0 DRUGE5 DRUGE10 DRUGE20 DRUGE40 DRUGE12

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	PROB. F EXCEEDED
MEAN	26889.33398	1	26889.33398	59.87049	.000
C	1600.25098	2	800.12549	1.78152	.172
ERROR	66021.37695	147	449.12501		
R	3466.07812	8	433.25977	8.52578	.000
RC	776.41309	16	48.52532	.95490	.505
ERROR	52761.48047	1176	50.81258		

VARIABLE 9: SUBJECTIVE RATING OF "GOOD" EFFECTS

CELL MEANS FOR 9-TH DEPENDENT VARIABLE					
COND	R	HI	LO	P	MARGINAL
GOOD0	1	2.02000	1.06000	2.38000	1.82000
GOOD5	2	5.16000	4.36000	6.00000	5.17333
GOOD10	3	5.74000	6.14000	6.84000	6.24000
GOOD20	4	4.44000	5.73000	7.38000	6.03333
GOOD40	5	4.20000	4.98000	5.16000	4.78000
GOOD60	6	4.16000	5.10000	4.70000	4.65333
GOOD80	7	4.66000	6.06000	3.92000	4.88000
GOODC	8	3.08000	4.68000	5.10000	4.28667
GOOD120	9	4.12000	3.90000	3.92000	3.98000
MARGINAL		4.17556	4.67333	5.10000	4.64963
COUNT		50	50	50	150

STANDARD DEVIATIONS FOR 9-TH DEPENDENT VARIABLE					
COND	R	HI	LO	P	
GOOD0	1	8.02926	3.38309	9.80141	
GOOD5	2	11.82588	11.27895	12.93469	
GOOD10	3	11.71047	12.74716	14.79156	
GOOD20	4	9.87712	12.96931	15.33123	
GOOD40	5	10.11566	11.83128	12.15270	
GOOD60	6	8.91767	10.92938	10.98282	
GOOD80	7	12.10938	13.85701	10.39199	
GOODC	8	8.63746	11.34498	10.90076	
GOOD120	9	10.80370	12.64951	10.49556	

VARIABLE 9: SUBJECTIVE RATING OF "GOOD" EFFECTS

ANALYSIS OF VARIANCE FOR 9-TH DEPENDENT VARIABLE -- GOOD0 GOOD5 GOOD10 GOOD20 GOOD40 GOOD120					
SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	PROB. F EXCEEDED
MEAN	29185.70898	1	29185.70898	34.55958	.000
C	182.66308	2	96.33154	.11407	.892
ERROR	124142.12500	147	844.50425		
R	2006.28027	8	250.78503	6.34792	.000
RC	534.30615	16	33.39413	.04528	.634
ERROR	46452.83496	1176	39.50666		

VARIABLE 10: SUBJECTIVE RATING OF "BAD" EFFECTS

CELL MEANS FOR 10-TH DEPENDENT VARIABLE

COND	R	HI	LO	F	MARGINAL
BAD0	1	.52000	.92000	1.18000	.87333
BAD5	2	2.26000	2.58000	2.80000	2.58000
BAD10	3	2.10000	3.32000	5.46000	3.62667
BAD20	4	2.28000	3.68000	5.90000	3.95333
BAD40	5	1.02000	3.54000	3.68000	2.74667
BAD60	6	2.38000	5.58000	4.96000	4.30667
BAD80	7	1.58000	7.32000	4.94000	4.61333
BADC	8	1.98000	4.34000	5.00000	3.77333
BAD120	9	1.88000	3.48000	2.68000	2.68000
MARGINAL		1.77778	3.87333	4.06667	3.23926
COUNT		50	50	50	150

STANDARD DEVIATIONS FOR 10-TH DEPENDENT VARIABLE

COND	R	HI	LO	F
BAD0	1	1.29741	2.97500	4.41098
BAD5	2	6.44541	6.62845	6.47444
BAD10	3	5.87714	7.88809	11.07158
BAD20	4	6.03067	9.83214	11.45221
BAD40	5	1.88971	7.15488	8.91786
BAD60	6	8.57831	10.63298	9.40030
BAD80	7	3.70928	14.15575	10.90106
BADC	8	6.06256	10.29684	10.83530
BAD120	9	6.66590	10.36918	7.18967

VARIABLE 10: SUBJECTIVE RATING OF "BAD" EFFECTS

ANALYSIS OF VARIANCE FOR 10-TH DEPENDENT VARIABLE -- BAD0 BAD5 BAD10 BAD20 BAD40 BAD45					
BAD120					
SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	PROB. F EXCEEDED
MEAN	14165.27002	1	14165.27002	44.64634	.000
C	1450.16113	2	725.08057	2.28532	.105
ERROR	46639.75781	147	317.27726		
R	1584.04395	3	198.00549	5.29571	.000
RC	651.32910	16	53.20807	1.42306	.122
ERROR	43970.38032	1176	37.38978		

VARIABLE 11: SUBJECTIVE RATING OF "DRUG LIKING"

CELL MEANS FOR 11-TH DEPENDENT VARIABLE

COND	R	HI	LO	P	MARGINAL
LIKE0	1	29.28000	30.74000	30.78000	30.26667
LIKE5	2	29.36000	31.22000	29.74000	30.27333
LIKE10	3	29.68000	31.46000	28.76000	29.96667
LIKE20	4	29.36000	30.80000	27.74000	29.30000
LIKE40	5	30.08000	31.26000	29.20000	30.18000
LIKE60	6	29.48000	28.76000	29.96000	29.40000
LIKE80	7	30.78000	28.68000	28.84000	29.43333
LIKEC	8	29.08000	31.50000	28.52000	29.70000
LIKE120	9	30.22000	31.40000	29.06000	30.22667
MARGINAL		29.75778	30.64667	29.17778	29.86074
COUNT		50	50	50	150

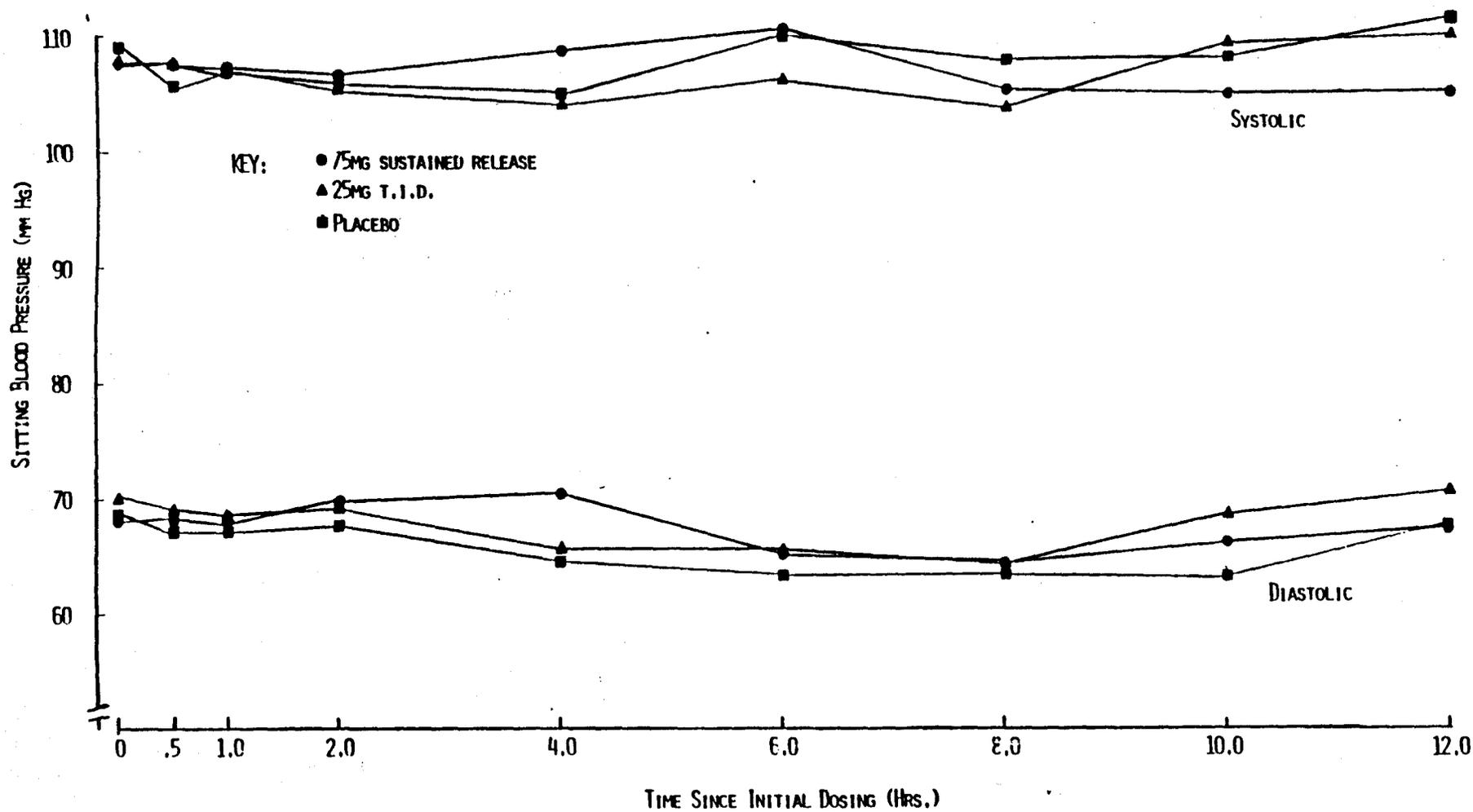
STANDARD DEVIATIONS FOR 11-TH DEPENDENT VARIABLE

COND	R	HI	LO	P
LIKE0	1	6.89584	4.74152	7.98031
LIKE5	2	7.68250	8.26670	7.23881
LIKE10	3	7.50901	7.66974	7.88064
LIKE20	4	6.73934	6.78034	7.29696
LIKE40	5	8.29024	10.53625	9.06440
LIKE60	6	8.38424	9.72596	12.50463
LIKE80	7	7.75200	9.24154	10.62114
LIKEC	8	7.27265	11.02548	12.77366
LIKE120	9	7.46499	11.39817	12.39554

VARIABLE 11: SUBJECTIVE RATING OF "DRUG LIKING"

ANALYSIS OF VARIANCE FOR 11-TH DEPENDENT VARIABLE - LIKED					
LIKE120					
SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	PROB. F EXCEEDED
MEAN	1203744.60937	1	1203744.60937	3092.57547	.000
C	492.43037	2	246.21519	.63292	.533
ERROR	57217.83008	147	389.23694		
R	197.59082	8	24.69885	.58547	.791
RC	738.48047	16	46.15503	1.09407	.355
ERROR	49411.23504	1176	42.18442		

FIGURE 1: SITTING BLOOD PRESSURE OVER THE COURSE OF A DAILY SESSION



FIGURE

NO.

- 75 mg sustained release
- ▲ 25 mg T.I.D.
- Placebo

SUMMARY OF DRUG EFFECTS OF PPA

MARK THE POINT TO INDICATE HOW YOU FELT:

I.D.

DATE

NAME

ARE THERE ANY DRUG EFFECTS?

ARE THERE ANY GOOD EFFECTS?

ARE THERE ANY BAD EFFECTS?

Do you LIKE or DISLIKE the effects?

