

SECTION III

THE USER

Sandra Browning

In order to develop a user population for SUPARS, many avenues for advertising the service were explored. These included classified and display ads in campus newspapers, as well as large posters placed on campus. Letters to faculty and graduate students were mailed, introducing the service and asking them to announce the service to their classes.

Once the population was developed as much information as possible was gathered on the user; his problems, his characteristics and his attitudes. As it is more effective to use several methods and make comparisons, many methods for achieving this goal were pursued. During the hours of SUPARS operation a telephone aid service was maintained by the staff. At the same time an unobtrusive data collection program, STATPAC, was being run. During the last week SUPARS was in operation, a telephone interview was conducted of a sample (100) of registrants, both users and non-users of the system, in order to learn their use of and reaction to SUPARS. Another sample was drawn and administered the semantic differential, aimed at identifying and measuring attitudes toward SUPARS.

During every phase of the SUPARS operation, the staff attempted to assist the users. First through the publicity campaign, which reintroduced the service to the campus community, and next by sending a User's Manual to each person completing a registration form. During the actual operation of SUPARS, the telephone aid service attempted to supply answers to the user's problems, while STATPAC gathered data unobtrusively. The telephone interview and the semantic differential were used as a means of gathering information concerning attitudes toward SUPARS and suggestions for improvement were also accepted.

1. PROFILE OF REGISTRANTS

To be eligible to use SUPARS during its six week operating period, all potential users were required to complete a registration form (Appendix V.) Questions on the registration form were aimed at collecting demographic-type information, information regarding registrants' usage of Psychological Abstracts, and information about registrants' previous experience with computer terminals and retrieval systems.

Data from all completed questionnaires were entered into the SUPARS Registration Retrieval System (SRRS), a small-scale retrieval system using APL which was especially designed for this purpose. Usage of the Inquiry or retrieval portion of SRRS allowed quick compilation of the descriptive information presented below.

Descriptions presented in this section deal with the population of

registrants in terms of a user/non-user dichotomy. Users were identified as such from STATPAC output, which lists the social security numbers of all those registrants who signed onto SUPARS and at least once entered a delta (Δ) to begin a search.

Several problems with this definition of users should be noted. First of all, registrants who tried to sign onto SUPARS, but for some reason failed to reach the point of entering a delta, are not here considered as users. Responses to the telephone interview (see part 4 of this section) indicate that nearly one-third of those classified at the time of the interview as non-users by the STATPAC definition had tried to use SUPARS at least once. Secondly, twenty social security numbers listed by STATPAC as user numbers could not be matched with registration forms. And finally, there is evidence that some users, rather than signing off SUPARS after completing their searches, left the system operating for others to use. These subsequent users then entered searches which were recorded by STATPAC under the social security numbers of the original users. Thus, the total number of users (143) referred to below represents a somewhat conservative estimate of the total number of people who used the SUPARS system in some way.

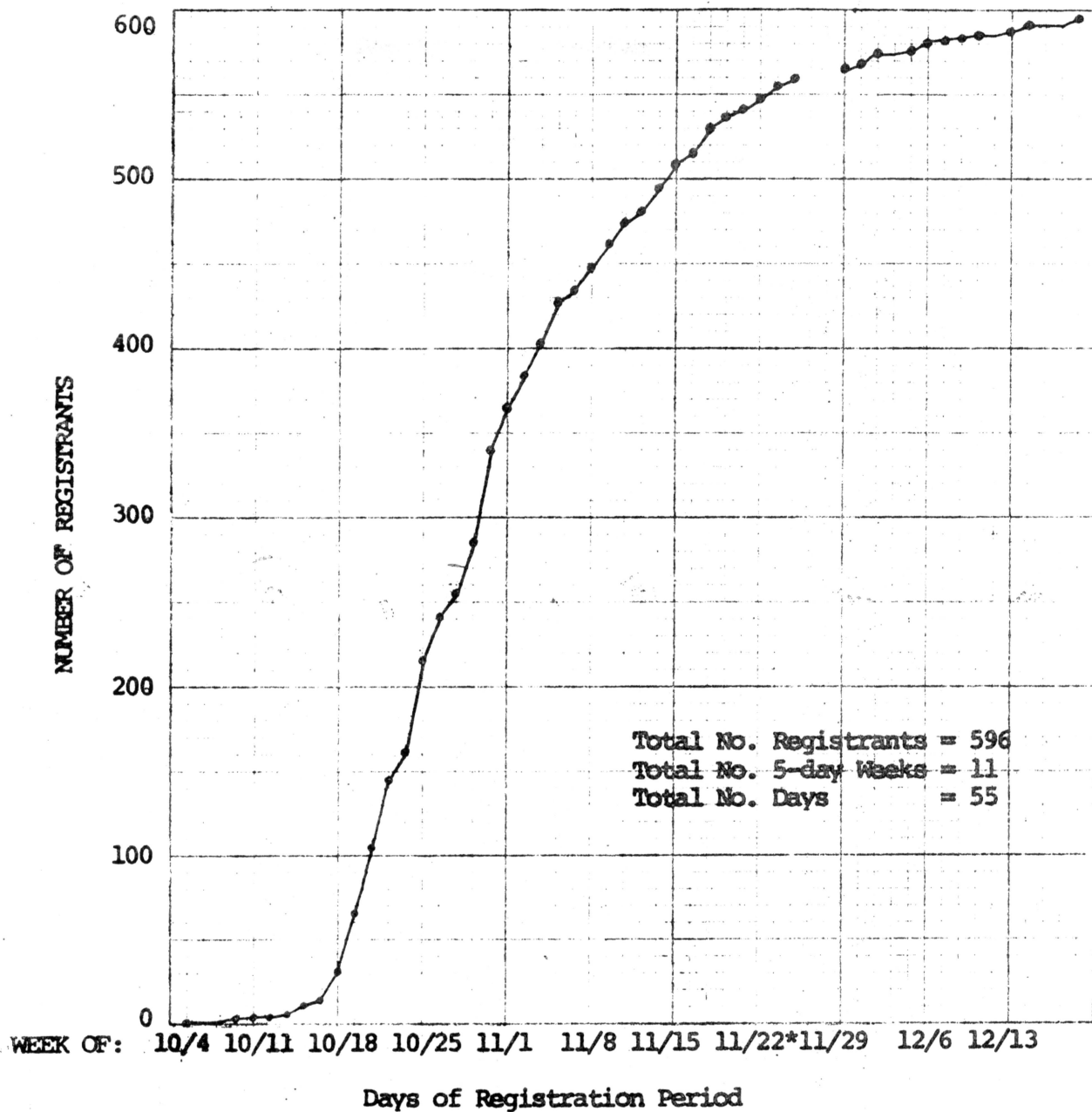
The graphs and tables below are arranged into four sections: (1) cumulative growth of the registrant population, (2) demographic data, (3) use of Psychological Abstracts by registrants, and (4) computer experience of registrants. Questions on the registration form from which the relevant raw data were originally drawn are listed preceding the appropriate section of data description.

a. Cumulative Growth of the Registrant Population

Figure 9 depicts the growth curve of SUPARS daily registration. (Date registered was considered to be the date on which a registration form reached the SUPARS office). During the 11 weeks of the registration period, which extended from October 4, 1971 to December 17, 1971, a total of 596 people registered to use SUPARS. The third and fourth weeks of the period were the weeks of the heaviest registration. By day 16, one-third of the population had been registered. On day 20, the half-way point of registration was reached. And by day 23, two-thirds of SUPARS' potential users had registered.

Last year during a 14-week registration period, SUPARS registered 349 potential users. The half-way point of registration occurred on day 30; the two-thirds mark was reached on day 37. (3)

A comparison of data for the two periods thus indicates that during the current year more potential users were registered more rapidly and over a shorter period of time than were registered during the comparable period last year. This is most likely accounted for by this year's more extensive publicity campaign, coupled with the certain degree of familiarity with SUPARS already present in the university population due to last year's operation.



*Thanksgiving vacation - no registration forms processed.

Figure No. 9. Cumulative Growth of SUPARS II Registrant Population

b. Demographic Data

(1) University Status

Question 6: Are you primarily: Faculty, Undergraduate student, Graduate student, Staff, Administrator, Visitor, Other?

Table V lists the number and percentage of users and non-users in each of the seven categories of university status. Graduate students accounted for the largest proportion of both users and non-users, with 62.4% of the users and 45.6% of the non-users being graduate students. The undergraduate and faculty groups were the second and third largest groups in both the user and non-user populations. Of the three university status subgroups mentioned, only the graduate student group contained more users than non-users.

In last year's registrant population, the three major academic subgroups were also graduate students, undergraduates, and faculty. However, the different methods used in accounting for multiple responses to the academic status question (See Table V) make exact between-year comparisons somewhat tenuous.

(2) Departmental Status

Question 7: What is your academic major or department?

As indicated by Table VI, the three individual departments accounting for the largest number of both users and non-users are, as would be expected from the nature of the data base and of SUPARS' affiliation, Education, Psychology, and Library Science. In the user group, Library Science accounted for 24.7% of the total, Education for 21.3%, and Psychology for 20.7%. Among the non-users, nearly one-third of the total was accounted for by Education registrants and one-quarter by Psychology registrants.

Approximately one-third of both the user and non-user population falls into the category, "Other." Table VII lists the full range of departments represented in the total SUPARS registrant population.

For all major departments, there were more non-users than users.

A comparison of this year's data with last year's indicates that for both operating periods, the same major departments reported the heaviest rate of registration. However, for last year's group of registrants, the proportion of registrants from the Psychology Department was higher (39.5%), accounting for nearly two-fifths of all registrants. This difference is probably due, not to any marked decrease this year, in interest on the part of those affiliated with the Psychology Department, but rather to the broader range of departments contributing registrants this year and to increased registration from such departments as Business, Journalism, Home Economics, and Social Work.

(3) Time Spent on Teaching, Research and Other Activities

TABLE V

NUMBER OF SUPARS REGISTRANTS BY UNIVERSITY STATUS*

STATUS	NUMBER OF REGISTRANTS		
	Users	Nonusers	Total
Administrator	2 1.3%	4 .8%	6 1.0%
Faculty	11 7.4%	82 17.3%	93 14.9%
Graduate Student	93 62.4%	216 45.6%	309 49.6%
Staff	2 1.3%	30 6.3%	32 5.1%
Undergraduate	32 21.5%	129 27.2%	161 25.8%
Visitor	3 2.0%	4 .8%	7 1.1%
Other	6 4.0%	9 1.9%	15 2.4%
Total	149 100%	474 100%	623 100%

*Note: Registrants were permitted to answer in more than one category. When a respondent answered in more than one category, each answer was tabulated as a separate response, reflected by the inflated column totals. For last year's data analysis, all multiple responses were totaled into the category "other".

TABLE VI

NUMBER OF SUPARS REGISTRANTS BY MAJOR DEPARTMENTAL CATEGORIES*

DEPARTMENT	NUMBER OF REGISTRANTS		
	Users	Nonusers	Total
Education	32 21.3%	149 31.0%	181 28.7%
Psychology	31 20.7%	118 24.6%	149 23.7%
Library Science	37 24.7%	45 9.4%	82 13.0%
Other**	47 31.3%	156 32.5%	203 32.2%
No Answer	3 2.0%	12 2.5%	15 2.4%
Total	150 100%	480 100%	630 100%

*Registrants were permitted to answer with more than one response. In cases of multiple responses, each response was tabulated separately, giving the inflated column totals.

**See Table VII for a detailed listing of all departments.

TABLE VII

NUMBER OF SUPARS REGISTRANTS BY DEPARTMENTAL CATEGORIES

<u>Department</u>	<u>Users</u>	<u>Non-Users</u>	<u>Total</u>
Accounting	--	2	2
Anthropology	1	5	6
Architecture	1	4	5
Art	1	3	4
Biology	2	5	7
Business	3	13	16
Chemistry	1	1	2
Economics	1	1	2
Education	32	149	181
Engineering	2	2	4
English	1	5	6
Forestry	3	6	9
Geology	1	--	1
History	--	2	2
Home Economics	1	14	15
International Relations	--	2	2
Journalism	6	15	21
Journalism Library	--	1	1
Law	--	1	1
Liberal Arts	--	6	6
Library Processing	--	1	1
Library Science	37	45	82
Math	--	2	2
Music	--	1	1
Philosophy	--	2	2
Physical Education	1	--	1
Political Science	2	4	6
Pre-Law	--	1	1
Pre-Medical	1	2	3
Psychology	31	118	149
Psychological Research Center	--	1	1
Public Administration	1	4	5
Romance Languages	--	1	1
Russian Studies	--	1	1
Systems Information Science	3	3	6
Social Sciences Program	1	1	2
Sociology	1	8	9
Social Work	8	25	33
Speech	4	7	11
Student Affairs Office	--	1	1
Student Personnel Administration	1	--	1
Syracuse University Research Corp	--	1	1
Upstate Medical Center	--	1	1
Urban Studies	--	1	1
No Answer/Question does Not Apply	3	12	15
	150	480	630
	63		

Question 8: What percent of your time is engaged in: Teaching and/or learning, Research, Other?

Tables VIII through X present data on the percentages of time spent by registrants in teaching/learning, research, and other activities. As shown by Table VIII, approximately one-third of the users reported spending between 76 and 100 per cent of their time on teaching and/or learning activities. Another quarter of the users indicated spending 26-50% of their time on these activities. The same categories also accounted for the largest proportions of respondents in the non-user group.

According to Table IX, a little over one-half of both users and non-users reported spending between 0-25% of their time on research activities.

Similarly, as shown in Table X, over one-half of both users and non-users reported spending 0-25% of their time on activities other than teaching, learning, or research.

It is to be noted that, in answering this question, respondents were not required to total their answers to 100%.

Comparable data was not presented in last year's final report.

(4) Previous SUPARS Registration and Use

Question 9: Did you register to use SUPARS last year?

Question 10: If yes, on the average, how often did you use SUPARS -- more than once a day, once a day, several times a week, several times a month, once a month, less frequently, no time?

As indicated in Table XI, the greatest majority (76.9% and 85.9% respectively) of both users and non-users did not register to use SUPARS last year, although there is a slight tendency for a larger proportion of the user group than of the non-user group to report registration.

Data from Table XII indicates that the majority of users who had registered last year reported using SUPARS several times a week or several times a month. Together these two categories account for two-thirds of the responses. Non-users who had registered with SUPARS last year most often reported having used SUPARS several times a month, with a somewhat higher percentage of (this year's) users reporting such usage. More non-users than users (19.4% as compared with 9.1%) reported using SUPARS no time.

c. Use of Psychological Abstracts by Registrants

(1) Recent Use of Psychological Abstracts

Question 11: On the average, over the last 2-3 months, how frequently have you used Psychological Abstracts -- more than once a

TABLE VIII

PERCENTAGE OF TIME ENGAGED IN TEACHING AND/OR LEARNING

Percent of Time	NUMBER OF REGISTRANTS		
	Users	Nonusers	Total
0-25%	19 13.3%	54 11.9%	73 12.2%
26-50%	36 25.2%	129 28.5%	165 27.7%
51-75%	19 13.3%	80 17.7%	99 16.6%
76-100%	49 34.3%	123 27.1%	172 28.9%
No Answer	20 14.0%	67 14.8%	87 14.6%
TOTAL	143 100%	453 100%	596 100%

TABLE IX

PERCENTAGE OF TIME ENGAGED IN RESEARCH

Percent of Time	Number of Registrants		
	Users	Nonusers	Total
0-25%	79 55.2%	228 50.3%	307 51.5%
26-50%	27 18.9%	76 16.8%	103 17.3%
51-75%	-- 0.0%	13 2.9%	13 2.2%
76-100%	5 3.5%	13 2.9%	18 3.0%
No Answer	32 22.4%	123 27.1%	155 26.0%
TOTAL	143 100%	453 100%	596 100%

TABLE X

PERCENTAGE OF TIME ENGAGED IN OTHER ACTIVITIES

Percent of Time	Number of Registrants		
	Users	Nonusers	Total
0-25%	82 57.3%	245 54.1%	327 54.9%
26-50%	13 9.1%	32 7.1%	45 7.5%
51-75%	5 3.5%	13 2.9%	18 3.0%
76-100%	2 1.4%	8 1.8%	10 1.7%
No Answer	41 28.7%	155 34.2%	196 32.9%
Total	143 100%	453 100%	596 100%

TABLE XI
REGISTRATION FOR SUPARS LAST YEAR

Indication of Registration	Number of Registrants		
	Users	Nonusers	Total
Yes	33 23.1%	62 13.7%	95 15.9%
No	110 76.9%	389 85.9%	499 83.7%
No Answer	--- 0.0%	2 0.4%	2 0.3%
Total	143 100%	453 100%	596 100%

day, once a day, several times a week, several times a month, once a month, less frequently, no time?

Table XIII shows that both the user and non-user groups most frequently reported no usage of Psychological Abstracts in the 2-3 month period preceding registration. This response accounted for 37.1% of the users and 33.1% of the nonusers. Approximately another one-fifth of both groups reported their previous usage of Psychological Abstracts to have been several times a month. These data are comparable to last year's data.

(2) Future Use of Psychological Abstracts

Question 12: Estimate how frequently you see yourself using Psychological Abstracts in the next 2-3 months -- more than once a day, once a day, several times a week, several times a month, once a month, less frequently, no time?

TABLE XII
USAGE OF SUPARS BY LAST YEAR'S SUPARS REGISTRANTS

Frequency of Usage*	Number of Registrants		
	Users	Nonusers	Total
A	1 3.0%	— 0.0%	1 1.1%
B	— 0.0%	— 0.0%	— 0.0%
C	12 36.4%	10 16.1%	22 23.2%
D	10 30.3%	19 30.7%	29 30.5%
E	2 6.1%	11 17.7%	13 13.7%
F	4 12.1%	10 16.1%	14 14.7%
G	3 9.1%	12 19.4%	15 15.8%
No Answer	1 3.0%	— 0.0%	1 1.0%
Total	33 100%	62 100%	95 100%

- *A More than once a day
- B Once a day
- C Several times a week
- D Several times a month
- E Once a month
- F Less frequently
- G No time

TABLE XIII

AVERAGE USAGE OF PSYCHOLOGICAL ABSTRACTS
IN THE 2-3 MONTH PERIOD PRECEDING REGISTRATION

Frequency of Usage*	Number of Registrants		
	Users	Nonusers	Total
A	1 0.7%	3 0.7%	4 0.7%
B	1 0.7%	1 0.2%	2 0.3%
C	12 8.4%	21 4.6%	33 5.5%
D	28 19.6%	98 21.6%	126 21.1%
E	14 9.8%	62 13.7%	76 12.8%
F	18 12.6%	61 13.5%	79 13.3%
G	53 37.1%	150 33.1%	203 34.1%
No Answer	16 11.2%	57 12.6%	73 12.2%
Total	143 100%	453 100%	596 100%

Table XIV indicates registrants' anticipated use of Psychological Abstracts in the 2-3 month period following SUPARS registration. The data show that, although previous usage of Psychological Abstracts was low (Table XIII), both users (38.5%) and nonusers (44.4%) most frequently responded that they anticipated using Psychological Abstracts several times a month for the next 2-3 months. A slightly higher percentage of users than nonusers anticipated using Psychological Abstracts more often than several times a month. Again, these data are comparable to last year's.

(3) Recent and Future Use of Psychological Abstracts for Preparation of a Term Paper, Thesis, or Speech

Question 14: Have you used Psychological Abstracts in the last 2-3 months to help you prepare a term paper, thesis, etc.

Question 15: Do you need Psychological Abstracts in the next 2-3 months to help you find references or abstracts for a term paper, thesis, speech, etc., you are currently preparing or planning to prepare?

Consistent with the data reported in Table XIII, data in Table XV indicate that over two-thirds of both the user and nonuser groups had not used Psychological Abstracts in the 2-3 months preceding SUPARS registration in preparing a term paper, etc.

Similarly, consistent with Table XIV, Table XVI shows that over three-quarters of both groups of registrants intended to use Psychological Abstracts in the months following registration to help prepare a paper, thesis, or speech.

(4) Specific Need for Psychological Abstracts

Question 16: What is your specific need for Psychological Abstracts in the near future -- to find a specific reference or abstract, to keep up to date in one or two content areas, to survey the literature in general, to exhaustively review a specific topic or area, to find several current references in an area, other?

As shown in Table XVII, approximately one-third of all SUPARS users responded that their immediate need for Psychological Abstracts was for exhaustively reviewing a specific topic or area. Approximately one-quarter of all nonusers also indicated this choice. Among the users, another 38% indicated that they would use Psychological Abstracts to find several current references in an area or to keep up to date in one or two content areas. Forty percent of the nonusers indicated that they needed Psychological Abstracts to find several current references in an area or to survey the literature in general.

Data from last year indicated that the majority (61%) of registrants

TABLE XIV

ANTICIPATED USAGE OF PSYCHOLOGICAL ABSTRACTS IN THE 2-3

MONTH PERIOD FOLLOWING REGISTRATION

Frequency of Usage*	Number of Registrants		
	Users	Nonusers	Total
A	1 0.7%	3 0.7%	4 0.7%
B	4 2.8%	2 0.4%	6 1.0%
C	32 22.4%	77 17.0%	109 18.3%
D	55 38.5%	201 44.4%	256 43.0%
E	13 9.1%	73 16.1%	86 14.4%
F	18 12.6%	50 11.0%	68 11.4%
G	11 7.7%	31 6.8%	42 7.0%
No Answer	9 6.3%	16 3.5%	25 4.2%
Total	143 100%	453 100%	596 100%

- *A More than once a day
 B Once a day
 C Several times a week
 D Several times a month
 E Once a month
 F Less frequently
 G No time

TABLE XV

PAST USE OF PSYCHOLOGICAL ABSTRACTS
FOR PAPER, THESIS, AND SPEECH PREPARATION

Indication of Usage	Number of Registrants		
	Users	Nonusers	Total
YES	39 27.3%	105 23.2%	144 24.2%
NO	93 65.0%	318 70.2%	411 68.9%
No Answer	11 7.7%	30 6.6%	41 6.9%
TOTAL	143 100%	453 100%	596 100%

TABLE XVI

ANTICIPATED FUTURE USE OF PSYCHOLOGICAL ABSTRACTS
FOR PAPER, THESIS, AND SPEECH PREPARATION

Indication of Usage	Number of Registrants		
	Users	Nonusers	Total
YES	108 75.5%	351 77.5%	459 77.0%
NO	29 20.3%	70 15.5%	99 16.6%
No Answer	6 4.2%	32 7.1%	38 6.4%
TOTAL	143 100%	453 100%	596 100%

TABLE XVII

ANTICIPATED TYPES OF USE OF PSYCHOLOGICAL ABSTRACTS*

Type of Usage**	Number of Registrants		
	Users	Nonusers	Total
A	32 12.3%	118 14.0%	150 13.6%
B	48 18.4%	136 16.2%	184 16.7%
C	36 13.8%	165 19.6%	201 18.2%
D	81 31.0%	224 26.6%	305 27.7%
E	53 20.3%	173 20.6%	226 20.5%
F	7 2.7%	16 1.9%	23 2.1%
No Answer	4 1.5%	9 1.1%	13 1.2%
Total	261 100%	841 100%	1102 100%

*Respondents were permitted to indicate multiple responses to this question.
Column totals reflect these multiple responses.

- **A To find a specific reference or abstract
 B To keep up to date in one or two content areas
 C To survey the literature in general
 D To exhaustively review a specific topic or area
 E To find several current references in an area
 F Other

TABLE XVIII

PREVIOUS EXPERIENCE WITH COMPUTER TERMINALS

Amount of Experience	Number of Registrants		
	Users	Nonusers	Total
A lot	16 11.2%	23 5.1%	39 6.5%
Some	67 46.8%	159 35.1%	226 37.9%
None	60 42.0%	271 59.8%	331 55.5%
No Answer	-- 0.0%	-- 0.0%	-- 0.0%
Total	143 100%	453 100%	596 100%

anticipated using Psychological Abstracts to exhaustively review a specific topic or area. Although this category was the most frequently reported this year also, responses tended to be less concentrated in this category, instead being more evenly distributed among categories A-E.

d. Computer Experience of Registrants

(1) Previous Experience with Computer Terminals

Question 17: What previous experience do you have with computer terminals -- a lot, some, none?

As indicated by Table XVIII, users as a group have had more experience with computer terminals than have nonusers. Over half (58%) of the users reported a lot or some experience with computer terminals, while only 40.2% of the nonusers reported such experience.

A greater proportion of this year's registrants reported some experience with computer terminals; only 25.8% of last year's registrants reported some experience with terminals.

TABLE XIX

PREVIOUS EXPERIENCE WITH COMPUTER-BASED RETRIEVAL SYSTEMS

Amount of Experience	Number of Registrants		
	Users	Nonusers	Total
A lot	9 6.3%	8 1.8%	17 2.8%
Some	38 26.6%	97 21.4%	135 22.7%
None	96 67.1%	342 75.5%	438 73.5%
No Answer	-- 0.0%	6 1.3%	6 1.0%
Total	143 100%	453 100%	596 100%

(2) Previous Experience with Computer-Based Retrieval Systems

Question 18: What previous experience do you have with computer-based retrieval systems -- a lot, some, none?

The majority of both the user and nonuser groups reported no experience with computer-based retrieval systems. A greater percentage of users (32.9%) than nonusers (23.2%) have had a lot or some experience with retrieval systems. These data are similar to the comparable data from last year's registrant population.

e. Summary

In summary, the total number of registrants this year was 596, with 143 users and 453 nonusers. Approximately 16% of this year's registrants had registered with SUPARS last year. Registrants from Education, Psychology, and Library Science accounted for the largest proportion of the registrant population.

In general, this year's data revealed few major differences between users and nonusers, with the exception that users tended to have had more previous experience with computer terminals than nonusers.

Finally, comparison of this year's registrant data with last year's, shows that, except for size and rate of registration, data configurations for both groups are highly similar. A larger proportion of current registrants, however, did report some previous experience with computer terminals. This last trend may be accounted for by the re-registration of 95 users from last year.

2. PUBLICITY - Margaret Mucia

Publicity this year was aimed at the campus community only, whereas last year the Syracuse metropolitan area was covered. A total of ten display ads (6 column inches) were ran in campus newspapers (The Daily Orange and the Syracuse University Record.) Five classified ads were also run but additional ones were discontinued on October 29, 1971 as they were deemed non-effective. All these ads were similar in scope and composition to those of last year. Large posters (22" x 28") were placed in six key locations on campus with an attached box of registration forms. Approximately 1,000 forms were made available in this manner. Upon request, a registration form was mailed to anyone who could not conveniently obtain one from any of the campus locations. Upon receipt of the form by the SUPARS office a Users Manual was sent to each registrant. Another avenue of advertising pursued was the distribution of letters to faculty and graduate students in those departments most likely to be interested in SUPARS. Two sets were distributed, one being an introductory letter briefly explaining SUPARS, and the second requesting faculty members to announce to their classes the availability of SUPARS. Attached to all letters were registration forms. Nine slide-tape demonstrations were given by the SUPARS staff to various classes such as Introduction to Information Technology, Social Psychology and Foundations of Instructional Technology.

3. 4220 LOGS - June Brower

During the six weeks that SUPARS was operational, a telephone number was known to the users for them to call for aid with problems. This number (extension 4220) was manned from 8 a.m. - 10 a.m. and 7 p.m. - 9 p.m. (Monday through Friday) by various staff members who were trained in the use of the system.

Each incoming call was logged on a special log sheet. The problems were numbered in sequence as they were received; and a description of the problem and the action taken to solve it by the staff member were included.

Data from the original log sheets were categorized and summarized by day in Log Summary A (Table XX)

Log Summary B (Table XXI) categorizes and summarizes the data from Summary A by week and gives totals for all categories. Log Summary B will be described in this section, column by column, as to the patterns of calls and the information exchanges carried on via the telephone aid service.

a. Description of Log Summary B.

Column 1: Week

In this column, each of the six weeks of SUPARS university-wide operation is designated by the dates of that week.

Column 2: Total Number of Calls

The total number of calls received per week on extension 4220 is logged in this column. It can be seen that telephone calls ranged from 32 (a three day week) to 30. During the six weeks of operational service a total of 402 calls from users were recorded. The mean number of calls per week was 67. The totals across the week are often greater than the number of calls because some users had more than one problem.

Column 3: General Information

All calls for operation hours and requests for registration forms are included in this column. The total number of calls received in this category was 86, the second largest total for any category.

Column 4: User Problems

A user problem was defined as a problem originating with the user rather than one originating with the SUPARS program or with the Syracuse University Computing Center and its equipment. Examples of user problems are: a user needs help in constructing his search properly; a user cannot sign onto the system because he has omitted a line of input. Column 4 indicates no particular trend over the six week time period in the frequencies of this type of call. Calls ranged from a low of 5 (during the first week) to a peak of 13 per week. The total number of calls in this category was 67.

Column 5: PA UNDEFINED

When the staff at the computing center failed to load the SUPARS disk packs at the time the system was scheduled to begin its daily operation a "PA UNDEFINED" message was printed out to users attempting to sign onto the system. Also, after an ABEND (defined later) the "PA UNDEFINED" message would go out until the ABEND was corrected. Column 5 logs the number of calls per week pertaining to this problem. The frequency of calls in this category was fairly low and it is assumed that the command was self-explanatory and thus users did not need to call and find out what it meant. This category accounted for 37 calls.

Column 6: ABEND

An ABEND is a system error which causes the SUPARS computer program to stop processing. Calls in this category were inquiries requesting information of system malfunction resulting from ABENDS. The second week of operation resulted in the greatest number of calls, 19, but there were continuous

queries throughout the six week period and resulted in 38 total calls.

Column 7: TOO MANY USERS

The "TOO MANY USERS" command was printed when all slots in the queues were filled; the user had to keep trying to sign on. Calls of this nature resulted in 19, the smallest total for all categories. It can only be assumed that the command was understood by the users that did not call, because this was one of the most frequently printed commands to come from the system.

Column 8: System Status

When a user inquired if SUPARS was or would be in operation that particular day, a call was logged into this category. The first two weeks of the university-wide service resulted in 68 calls in this category because of the problems SUPARS had in debugging the system. If you eliminate the first two weeks, the \bar{x} was 7.5 calls, from 30 total calls. However, by including the first two weeks for a total you reach 98 calls, which was the largest number of calls in any category.

Column 9: SUCC Problems

Figures in this category refer to user calls pertaining to system non-functioning which was attributable to computing center problems, i.e. equipment trouble, social security numbers not accepted, or general system failures. Frequency of calls per week ranged from 0-22; the total number of calls in this category was 63, the fourth highest number of calls in any category.

Column 10: SUCC Messages

Calls made to the SUPARS office by the computing center staff members were logged in this column. Very infrequently made, these calls usually informed SUPARS of impending delays in the loading of the SUPARS disk packs or of operating system trouble. Only four such calls were received during the six weeks of SUPARS university-wide operation.

b. Summary

By allowing a user to know that there is "someone out there who will help" is of primary importance in a retrieval system which can seem to be too mechanized for the uninitiated.

During the last three weeks of SUPARS operation the largest group of calls were for information on why things weren't working properly. The problem was with the Syracuse University Computer Center, which was beginning the change-over from the IBM 360 to the IBM 370 computer. Nothing could be done about the situation but users were able to relieve their frustrations by calling extension 4220 and hearing what had caused the bad conditions.

It is felt that without the telephone aid service the premise of SUPARS -- to make available a service to individuals -- would not have been as effective.

TABLE XX

LOG SUMMARY A

Day	Total Problems	General	User Problems	PA UNDEFINED	ABEND	TOO MANY USERS	System Status	SUOC Problems	SUOC Messages
Monday 11-8	9								
Tuesday 11-9	25	7	4	2	3		12		
Wednesday 11-10	20	3		4			13		
Thursday 11-11	7	4	1				10	1	
Friday 11-12	7	2					5		
Monday 11-15	12	5	1				6		
Tuesday 11-16	8	4		1			3		
Wednesday 11-17	23	2	3	1	5	1	12	1	
Thursday 11-18	25	2	5	2	8	1	7		
Friday 11-19	12	3	3		6				

TABLE XX

(CONTINUED)

Monday 11-22	13	2	3	1	1	1	4	3
Tuesday 11-23	14	3	5		1	1		4
Wednesday 11-24	5		5					
Thursday 11-25	<u>T H A N K S G I V I N G</u>							
Monday 11-29	14		2	1	4		1	4
Tuesday 11-30	16	7	5	2		1		2
Wednesday 12-1	10	2	2		1			6
Thursday 12-2	23	8	4	1	1	1	1	8
Friday 12-3	6	1	1			1	2	1
Monday 12-6	13		3	3			3	4
Tuesday 12-7	9	1		4		1	1	3
Wednesday 12-8	21	4	4	2	1	4		8

TABLE XX
(CONTINUED)

Thursday 12-9	21	2	3	6	1	1	3	4	2
Friday 12-10	12	3	3		1		3	3	
Monday 12-13	18	3	3	2	1	1	5	3	
Tuesday 12-14	21	14	1	2				4	
Wednesday 12-15	17	3	3		1	1	3	7	
Thursday 12-16	12	1	2		3	4	2		
Friday 12-17	9	1	1	2		1	2		

TABLE XXI

LOG SUMMARY B

Week	Callers	General	User Problems	PA UNDEFINED	AMEND	TOO MANY USERS	System Status	SUCC Problems	SUCC Messages
11-08 11-12	68	16	5	6	3		40	1	
11-15 11-19	80	15	12	4	19	2	28	1	
11-22 11-24	32	5	13	1	2	1	4	7	
11-29 12-3	69	18	14	4	6	3	4	21	
12-6 12-10	76	10	10	15	3	6	10	22	2
12-13 12-17	77	22	10	6	5	7	12	14	
TOTALS	402	86	64	36	38	19	98	66	2

4. STATPAC - Margaret Mucia and Michael McMullen

In conjunction with the telephone aid service, the telephone interviews and the semantic differential, STATPAC was used to gather information on the user. STATPAC is a specially developed computer program used to collect, store, and retrieve all elements of user interaction. A flow chart of the data flow and accompanying documentation is given in Appendix IV. STATPAC was distinguished from the other three methods because it was an unobtrusive generalizable data gathering retrieval program. Because STATPAC was an experimental program under continual revision, data recorded was not always 100% complete. As validation checks of output data were made with actual user interaction, program improvements were made to correct the system.

STATPAC was designed to show growth patterns as well as usage patterns. Growth was most evident in the number of users who entered their social security number to sign onto the system and the number and types of search inquiries entered. As shown in Table XXII, the data indicate a definite increase in the user population and the number of searches. (This will be discussed in greater depth below.) It should be noted that because of the experimental nature of SUPARS, fluctuations in usage due to programming changes, OS/360 computer difficulties, and variations in actual use patterns were reflected in an uneven growth rate.

STATPAC consisted of two summaries, Summary 1 and Summary 2. The summaries were developed by the project staff to monitor data about the most important parameters of system operation. These summaries are only two of the many configurations available. The distinguishing feature between the two was the different combinations of fields included. For example, Summary 1 included the following fields: Social Security Number, Log Number, Type of Search (Δ , ΔS , ΔV), Date, Clock Time, Terminal Number, Input Lines and Output Lines.

A Δ is the character on the terminal used to initiate the different types of searches. A Δ gives access to the document data base; a ΔV to the vocabulary data base; and a ΔS to the search data base. The primary sort was by social security number, with the secondary sort by log number, each in ascending order.

a. Summary 1

Example of a line from Summary 1

<u>SSN</u>	<u>LOGN</u>	<u>DELTA</u>	<u>CALENDAR</u>	<u>CLOCK</u>	<u>TER</u>	<u>INPUT LINES</u>	<u>OUTPUT LINES</u>
36XXXXXX0*	7444	DEL	11/18/71	0.00	52	L1 PSYCHOLOGY L2 COMPUTER(?) L3 ATTITUDE L4 L1 and L2 and L3;	13399 44

*The social security number is not given in its entirety in order to insure the user's security and to protect against invasion of privacy.

In Table XXII weekly totals are given for the five weeks SUPARS was available for campus use. The contents of each column are discussed in detail below. The letter preceding each section refers to the corresponding letter for each column in Table XXII. The data was collected on the IBM 360/50 OS.

(a) Social Security Number (SSN)

Each time a user signed onto SUPARS his social security number was recorded along with his interaction with the system. An increase in the number of people who used the system is evident from this column. Although some people may have used the system in more than one week, the overall user rate increased except for the last week. The decrease evident in Week 5 can be explained by difficulties arising from the Syracuse University Computing Center, and not from the SUPARS program itself. The mean over the total period was 50 users per week. The total number of times social security numbers were entered during its 5 weeks of operation was 250.

(b) Number of Log Numbers (LOGN)

Each time a user typed a delta (Δ) a log number was generated. As there were more users on the system during the second, third, and fourth weeks, there were an increased number of log numbers generated. The mean was 502 per week.

(c) Number of Terminals (TER)

Syracuse University has 100 IBM 2741 terminals located in buildings on campus, but the highest use during any one week occurred during Week 4. There were a total of 42 in use at that time. This can be explained in part by the fact that some users found it difficult to sign on due to the high use of the system, and consequently as one user completed his searching, another would begin at the same terminal, eliminating the sign on procedure. The mean was 37.

(d), (e), (f) Number of Deltas (DELTA) (DDB-Document Data Base,
SDB-Search Data Base,
VDB-Vocabulary Data Base)

As a query was begun, STATPAC logged the type of search Δ , ΔS , ΔV . The number of Δ searches far outnumber either of the two other options, ΔS or ΔV . During the first four weeks the ΔV data base was not in operation and therefore could not be searched. The mean of Δ searches was 461 and ΔS searches was 32 over the five week period.

Additional data in STATPAC includes (a) the number of search inquiries initiated by a user, (b) the ratio of the number of inquiries made by one user to the total number of inquiries. For example, one user initiated 120 inquiries and accounted for .05 of the total searches. The total number of searches initiated was 2399, and the total number of different users who initiated search inquiries was 143. There were 17 users who initiated one search inquiry. Of the 143 users of SUPARS the mean number of inquiries initiated

TABLE XXII

STATPAC SUMMARY I

	(a)	(b)	(c)	(d)	(e)	(f)
	SSN	Number of log numbers LOGN	Number of terminals TER	Δ^* DDB	ΔS SDB	ΔV^{**} VDB
Week 1 Nov. 14-Nov. 20	37	291	30	273	18	0
Week 2 Nov. 21-Nov. 27	47	492	36	459	33	0
Week 3 Nov. 28-Dec. 4	61	569	40	519	50	0
Week 4 Dec. 5-Dec. 11	64	594	42	575	19	0
Week 5 Dec. 12-Dec. 18	41	567	38	481	39	47
Total	250	2513	186	2307	159	47
Mean	50	503	37	461	32	--

* Δ is the keyboard character used to initiate a search inquiry.

** ΔV was not in operation until the fifth week of SUPARS operation -- December 12 to December 18.

was 17, although there were wide ranges of use, from those who used the system only once to twice to one user who initiated 120 search inquiries.

b. Summary 2

Summary 2, which sorted all other fields by date, consisted of the following fields; date, log number, type of search, social security number, terminal number, clock time, CPU time, cost, maximum items possible, number of items printed, and input and output lines.

The data presented in Table XXIII is the most current and was gathered while SUPARS/DPS was under the operational control of the IBM 370/155 OS. The fact that the data was gathered from search inquiries performed by staff search experts and not the campus users distinguishes this table from Table XXII.

The following explain the column headings that are shown in Example 2. Those which are the same as the one in Example 1 are duly noted.

Example of a line from Summary 2

<u>DATE</u>	<u>LOGN</u>	<u>DELTA</u>	<u>SSN</u>	<u>TER</u>	<u>CLOCK</u>	<u>CPU</u>	<u>COST</u>	<u>MIP</u>	<u>NPRINT</u>
11/30/71	7454	Δ	3LXXXXX00	52	2101	1	4.45	43	20

Date

The date for each day of operation was recorded in ascending order, in the first column.

Social Security Number (SSN)

This column is the same as in Summary 1.

Terminal (TER)

This column is the same as in Summary 1.

Clock Time (CLOCK)

The clock time was measured in the same manner as CPU time, from the time a user struck a Δ to the time he hit another Δ or typed)OFF to disconnect from the SUPARS program. It is the total time a user was connected.

CPU Time (CPU)

The Central Processing Unit time of the computing system was recorded.

Cost (COST)

Cost is the total cost of each particular log number.

TABLE XXIII

MEAN CPU TIME AND COST
OVER THE THREE DATA BASES

Delta	Number of initiated search inquiries	Mean CPU Time	Mean EXCP Count*	Mean Cost
Δ Document Data Base	824	5.45	407.92	1.16
ΔS Search Data Base	216	0.24	67.45	0.13
ΔV Vocabulary Data Base	318	0.11	41.37	0.08

* EXCP count is a measure of I/O activity plus any internal channel

Maximum Items Possible (MIP)

The term Maximum was used in the Maximum Items Possible message because DPS limitations cannot handle searches with complex operators. (Those other than AND, OR or NOT), without processing the search a second time. Therefore this number is the initial count and is not always the exact number a search may retrieve. If very broad inquiries are input, this column will reflect a large number of Maximum Items Possible, whereas if a very specific topic were being searched, the Maximum Items Possible would be very small. Therefore the number of searches during any one week may not always correspond with the number of maximum items possible. For example, if in one week the topics searched were of a very specific nature, the total summary of the number of items possible may be low.

c. Summary

By means of STATPAC many variables could be studied regarding the user and his interface with the SUPARS system in an unobtrusive manner without having to observe the individual directly. These variables were printed in two different summaries, Summary 1 and Summary 2. Summary 1 shows growth by increased number of users signing on, and the increased number and variety of searches. Summary 2 indicates growth by number of users in relation to time of searches and the costs of those searches.

STATPAC is a good example of the wide range of variables and combinations of those variables which can be studied and analyzed without confounding user data by the reactions an individual generally makes or withholds when his behavior is being observed. This study and analysis will hopefully lead to a better understanding of the user and his needs.

5. TELEPHONE INTERVIEWS OF SUPARS REGISTRANTS - Jeffrey Katzer

One of the techniques we used to assess reactions to SUPARS is the structured interview (other techniques are discussed elsewhere in this report.) The major objective of this study was to obtain reliable estimates of the reactions of users and registered nonusers toward SUPARS. The survey was planned to shed light on several specific questions.

1. Can we identify the variable(s) which differentiate the population of registrants into users and nonusers?
2. What mechanisms are effective in the education of SUPARS users?
3. How often and to what extent is the system wanted?
4. What are the major problems encountered by users?
5. How do users judge the quality of their research output?
6. How do users and nonusers characterize their reactions toward the system?

In an attempt to obtain user's reactions during the first year's operation, Frierson conducted lengthy personal interviews with a random sample of 20 registrants (SUPARS 1970 Final Report). A major goal of that study was to develop and test the interview guide, and for that reason we were willing to tolerate the small sample size. This year, we wanted to increase the sample size to increase the reliability of the information. For practical reasons it was necessary to change the format from a personal interview to a phone interview. The interview guide, pretested last year, was also changed in order to incorporate the differences between the 1970 and 1971 SUPARS system as well as the new phone format. Several drafts of the interview guide were prepared and pretested. All of the interviewers were trained in the use of this instrument.

The phone interview was conducted of SUPARS' registrants during the week of December 13, 1971. By delaying the survey until the last week of service to the university,¹ we hoped to maximize the number of registrants contacted who would be users. Unfortunately this delay affected our completion percentage because several of our potential interviewees could not be contacted because they left town early for the upcoming holidays.

¹A later decision extended SUPARS service after the University's Christmas recess.

TABLE XXIV

FREQUENCY OF COMPLETED INTERVIEWS

	Completed	Noncompleted	Total
Users	35	18	53
Nonusers	28	19	47
Total	63	37	100

Our first concern was to try to determine if a response completion bias was present, and if so, the nature of the bias. Within each category (user and nonuser) the completion response rate was at least 60%. While not as high as desired, this percentage is a minimal rate to give us some assurance that those who completed the interview represented the total sample. It should also be noted that the percentage of users and nonusers with completed interviews (55% and 45% respectively) corresponds closely with the overall percentage of users and nonusers in the sample (53% and 47%). Lastly, it should be noted that none of the 37 noncompleted interviews were due to an active refusal to be interviewed. Every person in the sample contacted, completed the interview.

As a further check on possible response completion bias, we compared the information reported on the registration forms of those completing the interview with those whom we could not contact. Among the users we found no discernable differences in terms of academic status, departmental affiliation, or anticipated use of Psychological Abstracts. Similar results were found among the nonusers with one major exception, academic status. All of the seven faculty nonusers completed their interviews. This probably reflects the fact that the faculty could not leave town for the holidays before the official last day of classes (which was the last day for interviewing). Students usually leave for the holidays earlier; in fact 37% of all non-respondents were students known to have left town.

A response bias is evident: faculty are over represented in the group of nonusers who completed their interviews. This should be kept in mind when interpreting our findings. However, it will not seriously affect the interpretation of any differences between users and nonusers -- our major area of interest.

The remainder of this report of the telephone survey will be based only upon the completed interviews (N=63).

a. The Sample

A random sample of 100 registrants was drawn from two separate populations. Using STATPAC (a log of the system which collects, stores and retrieves all user interaction with SUPARS) we obtained a list of users² of the system. At that time 97 registrants used the system at least once.³ From the list of users a random sample of 50 were selected for the phone survey. Another random sample of 50 were selected from the remaining 470 registrants (non-users.)

During each interview several questions were asked to determine if the original classification of user or nonuser was correct. Because several days had elapsed between collecting the list of users from STATPAC and the completion of the interviews, and because of the limitations of STATPAC³, we decided to define a user as a registrant who signed onto SUPARS, as ascertained by the interview. That is, a user is defined as one who responded positively to Question 3 (in Section I) of the interview:⁴ They were able to sign onto SUPARS at least once. Cross-checking the interview with STATPAC we found three registrants originally designated as nonusers, who had used the system. The final survey, therefore, was composed of 53 users and 47 nonusers.

b. Completed Versus Noncompleted Interviews

Of the 100 possible interviews, 63 were completed. The breakdown of completed and noncompleted interviews between the users and nonusers is presented in Table XXIV.

²STATPAC defines a user to be anyone who signed onto SUPARS successfully. We did not check STATPAC to see if the user actually made any SUPARS searches. However, a check was made during the interview to see if the STATPAC-designated user actually made searches -- see text.

³This number is a conservative lower limit. As discussed elsewhere in this report, we have evidence to suggest that once some users signed on they left the system operating upon completing their personal searches. Other users then entered searches which were collected by STATPAC under the social security number of the original user.

⁴A copy of the phone interview schedule and a registration form are included in Appendix V.

TABLE XXV

ACADEMIC STATUS OF USERS

	Faculty	Undergraduate Student	Graduate Student	Staff	Adminis- trator	Other	Total
Frequency of Users	1	8	23	1	1	1	35
Percentage of Users	3%	23%	65%	3%	3%	3%	100%
Percentage of Registrants ¹	15%	26%	50%	5%	1%	3%	100%

¹Since registrants were permitted to indicate more than one status position, the frequency of registrants in these categories totals to more than the 567 registered when the phone survey began.

c. Users: Description

Thirty-five users completed the phone interviews. Academic status of the interviewed SUPARS users is presented above in Table XXV. While it is not surprising that the great majority (88%) of users were students, we anticipated a greater percentage of faculty users. If SUPARS presents an information service for those doing research, it seemed reasonable to expect more usage by faculty. As shown in Table XXV, approximately 15% of SUPARS registrants were faculty but they made up only 3% of users.

We have collected some hearsay evidence which suggests that for at least some faculty, graduate students were used to test the system's availability and usefulness. Moreover, it is highly likely that graduate students performed SUPARS searches for some faculty members. This pattern of research assistants (in this case graduate students) making searches for researchers is understandable, and occurs frequently in at least one other interactive bibliographic reference retrieval system (SUNY Biomedical System)

Users were affiliated with 10 different academic departments or area specialities. The largest group of users came from Library Science (10). This probably reflects the fact that the SUPARS project was administered by the School of Library Science. Several instructors in the school used SUPARS

in their classes as a pedagogical tool -- rather than a research tool. Both the Psychology Department and the Education Department had seven users each. Social Work, the next more frequent category, had three users. All other areas had one user each.

Users found out about SUPARS in a variety of ways. Forty-one percent of the users mentioned learning about the system directly from our publicity efforts (newspaper notices, posters on campus, slide presentations.) Six users remembered SUPARS from the service offered during the Fall of 1970 (S3Q1).⁵

All of the users received a copy of the 1971 User's Manual upon registering.⁶ In general, they found the Manual well written and quite useful. Ninety-seven percent of users took their Manual with them to the terminal. The absence of an explanation of common error messages was the major complaint about the Manual (S3Q4 - 13).

Thirty-one users remembered receiving a Pocket Reminder Card (a folded 3 x 5 sized summary of the main sign on and search procedures.) All registrants should have been sent one. The Pocket Reminder Card seemed to be less useful than the Manual; 39% of the users reported they did not find it helpful. Except for two users stating that the print was too small on the card, no other complaints were made. It is difficult to determine why the card was not used more frequently (S3Q15-19).

As a backup for the Manual and the Pocket Reminder Card, the SUPARS staff manned a user-service phone (extension 4220) during the hours of SUPARS operation and for most of the remainder of the working day. Twenty-three users called 4220 at least once; most users (56%) called less than four times during the entire SUPARS operation (S3Q22-23).

Users judged the information supplied by SUPARS staff via extension 4220 to be helpful (78%), (S3Q24)⁷

d. Users: General Usage Patterns

A breakdown of the frequency and duration of attempted and actual terminal use is presented in Tables XXVI and XXVII.

⁵Items in parentheses identify the interview question applicable to the results discussed. In this case it was Section 3, Question 1.

⁶Though we offered instruction of the use of the terminal and construction of searches, very few users requested such aid. Our instructional plan was to rely on the User's Manual as the primary means for user self-education.

⁷A more complete description of users, based upon information contained on the registration forms, and a log of the calls received on extension 4220 have been presented in this section.

TABLE XXVI

FREQUENCY OF ATTEMPTED USE OF SUPARS (S1Q1)

	Daily	Several Times a Week	Once a Week	Less Than Once a Week	Total
Frequency	2	17	7	9	35
Percentage	6%	49%	20%	26%	101%

TABLE XXVII

AVERAGE TIME SPENT USING SUPARS IN ONE SESSION AT THE TERMINAL (S1Q18)¹

	Less Than 15 Minutes	15-30 Min.	30-60 Min.	60-120 Min.	Total
Frequency	0	4	8	21	33 ²
Percentage	0%	12%	24%	63%	99%

¹Though SUPARS was available for four hours each weekday, these hours were distributed into two, two-hour sessions.

²This question was only asked of the 33 users who were able to obtain output from at least one of their searches.

The major limitation in interpreting these data is the lack of control over the length of time each respondent used SUPARS before the phone interview. Some respondents might have been using SUPARS from the first day it was available. Others might have begun the day before the interview. It is possible that respondents in either of these groups completed the same number of searches.⁸

⁸Once the output from STATPAC is available and tested, we will be able to determine the actual use (number of days, number of searches, and amount of time at the terminal) for each user.

Taking the information in Tables XXVI and XXVII at face value, it appears that three-quarters of SUPARS users tried to use the system at least once a week, and once they managed to sign onto the system, they stayed on it for at least 15 minutes -- most of the time longer. A more detailed look at the responses of these twenty-one users who reported spending about one to two hours at the terminal each time they used SUPARS raises some questions. Ten of the 21 users in this category also claim to make only 2 to 5 searches on the average in one terminal session. Under good conditions it is not unusual for a user to complete several times that number of searches in a two hour period. It is possible that these users were doing a great amount of thinking about search strategies between searches. Or they might have had to wait for a large amount of output to be printed. Their likely explanations would be that either they were teaching themselves how to use SUPARS and proceeded cautiously with errors, or they might have experienced computer problems with SUPARS per se or with the total operating system.

Table XXVIII presents the number of searches users estimated that they made in each terminal session and across all terminal sessions.

TABLE XXVIII

FREQUENCY AND PERCENTAGE OF ESTIMATED NUMBER OF SEARCHES MADE

		1	2-5	5-10	10-20	20-50	over 50	total
In one terminal session. (SIQ17)	Frequency	2	17	9	4	1	0	33
	Percentage	6%	51%	27%	12%	3%	0%	99%
Totaled for all terminal sessions. (SIQ11)	Frequency	1	8	7	3	10	6	35
	Percentage	3%	23%	20%	9%	29%	17%	101%

In general, the median number of searches made at each terminal session is in the 2-5 range.. Over all of his terminal sessions the user makes an average (median) of 10-20 searches. Both of these figures suggest a less frequent use of SUPARS than had been anticipated. (Though some information needs could be met with a few number of searches.) Certainly the delays in starting the system each day and the frequent software failures did not help increase the usage of the system.

While all of the users were able to sign onto the system, 31 of them (89%) experienced some difficulty in signing on at least once. The different types

of problems experienced by users in signing on are listed in Table XXIX.

TABLE XXIX

PROBLEMS EXPERIENCED BY USERS WHICH HAMPERED ATTEMPTS TO SIGN ON (SLQ8)

Problem	Frequency
No terminal available	1
Keyboard frozen	1
Unexplained Messages (Other than those below)	4
SUPARS not available when it should have been (PA UNDEFINED message)	6
Complete IBM/360 Operating system failure	9
Area storing user's search filled ¹ (TOO MANY USERS message)	<u>21</u>
	42

¹As each SUPARS user signs on, a 1200 byte storage area is set aside to hold each search as it was entered. Given a limited amount of core available it was impossible to have an unlimited number of user storage areas. Eight of these areas were unavailable. Users who signed on after the last storage area was allocated were sent the "TOO MANY USERS" message.

Forty of the forty-two problems mentioned by the users are software problems. Twenty-five of the forty-two problems were SUPARS problems. It is amazing that users had the persistence to continue trying to use the system after so many problems. The frequency of occurrence of the "TOO MANY USERS" message helps explain the "corrective" action taken by some of the users (described in footnote 3.)

After successfully signing on to the SUPARS system other types of problems became possible. Twenty-one users (60%) experienced one or more problems while searching. The twenty-six problems reported by these users are classified into the four categories presented in Table XXX.

TABLE XXX

PROBLEMS EXPERIENCED BY SUPARS USERS AFTER SIGNING ON (S1Q10)

Problems	Frequency
Non-operation; such as SUPARS or operating system failures	6
Free text; such as user supplied keyword not in dictionary ¹	4
SUPARS interaction; such as uninterpretable output or operators not used or not working correctly	12
Other problems; such as typing errors, keyboard jamming	4
	26

¹Pursuing this type of problem further, we asked 33 users if they preferred a free-text system or one in which the vocabulary was more controlled. 42% preferred the free-text; 36% preferred the controlled vocabulary; 12% wanted both possibilities and the others had no preference (S2Q11.)

Of these problems, 69% of them are software related and 58% specifically due to difficulties with SUPARS.

e. Users: Reactions

One of the purposes of the phone interview was to get users' impressions of the quality of output retrieved by SUPARS. Thirty of the 33 users asked, felt that SUPARS generally retrieved the information they wanted. (S2Q1).

We also asked those 29 interviewees who have used the printed version of Psychological Abstracts to compare it with SUPARS in terms of speed, ease and quality of search output. Sixty-nine percent judged SUPARS to be faster, and 3 users who did not agree with this majority said that SUPARS would be faster if it worked all the time, or if he could always get on the system -- see footnote to Table XXIX (S2Q5.) Most of the users (76%) considered SUPARS to be easier to use than Psychological Abstracts (S2Q6). Responses to two questions asking users to judge the relevance of SUPARS retrieved output are presented in Table XXXI.

TABLE XXXI

FREQUENCY AND PERCENTAGE OF RESPONSES:

"Have you located more relevant information with SUPARS"						
		Yes	No	Don't Know	Equal	Total
than you would have found using <u>Psychological Abstracts</u> (S2Q7)	Frequency	15	8	3	2	28
	Percent	54%	28%	11%	7%	100%
which you probably would not have found without SUPARS (S2Q8)	Frequency	18	4	6	0	28
	Percent	64%	14%	21%	0%	101%

One user felt that "quality" of abstracts from Psychological Abstracts is better than from SUPARS, but for "quantity" the situation is reversed. Another user, giving an affirmative response to the second question, felt that he would not have expended the extra amount of effort to make manual searches in Psychological Abstracts.

While responses such as shown in Table XXXI are encouraging, it must be remembered that these data are based upon user estimates, not behaviors such as actual use of retrieved abstracts in term papers. Parenthetically, it is interesting to note that cognitive consistency theories would predict a favorable user response, such as shown in Table XXXI, if the retrieved abstracts were nonrelevant and user-SUPARS interaction was a negative experience. As described below many users found SUPARS frustrating. (Also see Table XXXIII)

Users were asked to state those aspects of SUPARS they liked most and liked least. Of the 46 positive responses, about one-third mentioned speed or quickness of using SUPARS. Other representative positive responses were "fun," "thorough," "don't have to copy printout," and "dig computers." (S2Q9).

Of the 46 least-liked items, 22 of them (48%) were related to the relative unavailability of SUPARS, (poor service hours, too few days, too many users, too many system failures, etc.) Other typical negative responses were "irrelevant output," "weird commands," "more expensive," and "don't know what words to use in a search." (S2Q10)

In order to get an overall assessment of user's reactions to SUPARS, much later in the interview, we asked each user to state two or three adjectives which best described his experiences with the system (S3Q27). Each user, of his own accord, gave at least one negative and one positive response to the question. Of the 78 total responses, 21 were the same adjective, "frustrating." The remaining responses varied greatly, e.g. "cantankerous," "challenging," "helpful," "time consuming," "motivating," and "useful."

The picture that seems to be painted by user responses is a conflicting one. In general, they find it frustrating to use, but persist because they are intrigued with its speed, novelty, and potential. There is no discounting the negative experiences users had with the system — especially the difficulty of getting signed on when they wished to. However, most of the users (94%) said they would register for SUPARS if it became available again (*S3Q26.) And, at the end of the interview, when the user was asked if he had any questions, eleven of the 23 who had, wanted to know if the SUPARS service could be extended into January, 1972 (S3Q28). Several users volunteered to help SUPARS keep running past its deadline by asking their chairmen to contribute departmental computer funds to the project.

f. Nonusers: Description

Twenty-eight nonusers were interviewed. Table XXXII gives the frequency and percentage of nonusers according to academic status.

TABLE XXXII
ACADEMIC STATUS OF NONUSERS

	Faculty	Undergraduate Student	Graduate Student	Staff	Adminis- trator	Other	Total
Frequency of Nonuser	7	7	11	2	1	0	28
Percentage of Nonuser	25%	25%	39%	7%	4%	0%	100%
Percentage of Registrants	15%	26%	50%	5%	1%	3%	100%

The major difference in status between users and nonusers occurs in the faculty and graduate student categories. Nonusers have a larger percentage of faculty and a smaller percentage of graduate students than users⁹.

⁹To get a rough idea of the "randomness" of the distribution of observed frequencies for users and nonusers, we collapsed the 3 least frequent status categories (staff, administrator, other) into one category. The frequencies then were cast into a 2 x 4 contingency table (i.e. user/nonuser by the 4

Nonusers represented 13 different academic departments. The largest group of nonusers came from the School of Education (6).

Nonusers as a group first learned about SUPARS in ways similar to that of the users. Four of the nonusers knew about the system from the previous year, and 19 other users were introduced to SUPARS by some of our publicity.

One might have guessed that one of the variables which separated registrants into the user and nonuser category was the convenience of SUPARS' operating hours. This did not turn out to be true. In fact, a slight reversal of what was expected occurred. While most of the users did not prefer the service hours, most of the nonusers did (57%). Occasionally it became useful in this analysis to separate nonusers into two groups: those who tried to use the system at least once (but failed), and those who never tried (see page 1 of interview face sheet, question 2.) The 28 nonusers split into a group of 9 (who tried) and a group of 19 (who never tried.) Six of the 9 who tried SUPARS preferred other hours, while 13 of the 19 who didn't try found the scheduled hours satisfactory. Though there is no apparent explanation it seems as if the more a registrant tries to use the system (from "nontryer," to "tryer," to user) the more he finds the operating hours unsatisfactory.

All but three of the nonusers received a Users Manual;¹⁰ two of these 3 reported having access to a copy of the Manual.¹¹ Most of those who read the Manual found it well written (91%). Though it was possible that several registrants did not receive a Manual, we did try to send a copy of the Pocket Reminder Card to all. Even so, eight of the nonusers reported not receiving one. Most of those who received it found it helpful. The SUPARS telephone helping service was used by 7 of the nonusers. Of these 7, 5 were "tryers."

There is an interesting difference in the adjectives given by the "tryers" and the "nontryers." Those who tried SUPARS (9) had mainly negative adjectives to describe the system. The most common of these was "frustrating." Other adjectives reflected a similar feeling: "maddening," "disappointing," and "discouraging." Given that these people tried to get onto the system and failed, these attitudes are understandable. It is interesting to note, however, that several of these respondents asked if SUPARS would be available after the Christmas recess. One faculty member in this group volunteered to "apply pressure" so that SUPARS could be continued.

types of academic status.) A Chi Square test for independence was calculated. The observed value of Chi Square equals 7.92. To be significant at .05 level, the Chi Square needed to exceed 7.81. Therefore, the distribution of scores in the underlying populations are not proportional to their totals, (i.e. not random.)

¹⁰This is possible. The number of registrants was considerably higher than anticipated, and some of the later registrants were not sent a manual because we had distributed all of them to earlier registrants.

¹¹To attempt to alleviate the difficulties caused by not sending registrants

TABLE XXXIII

ATTITUDES TOWARD, AND CONTACT WITH SUPARS

Level of Contact with SUPARS	General Attitude Toward SUPARS	A Possible Contributor to the Attitude
Nonusers, "non-tryers" (N=19)	highly positive	Contact with SUPARS was limited to publicity and the Users Manual. No interaction with the system itself.
Nonusers, "tryers" (N=19)	highly negative	Inability to sign on or stay on the system. These nonusers were either not lucky enough or not persistent enough to "rediscover" the potential of SUPARS!
Users (N=35)	ambivalent	Though these people experienced many of the same problems of "tryers," they had sufficient experience to see the system working well. (The possible effects of cognitive inconsistency -- e.g. dissonance -- should not be dismissed here.)

At this time we cannot tell what factors in the interaction with the system are related to this "rediscovery" of the system's potential. One would hope that quality of output, speed or ease of using the system would be related to these factors. These data do not provide any evidence on this matter, one way or the other.

In contrast to the "tryers", the nonusers who never attempted to sign on to the system (N=19) had uniformly positive adjectives about SUPARS: "accessible," "innovative," "personalized," "good," "great service," "interesting," and "exciting idea."

It seems that all pre-use contact with SUPARS via publicity, Users Manual, etc. helped produce the attitude we wished -- and thought necessary for a openly-accessible, computerized system without intermediaries. This positive feeling, however, was changed by actual initial contact with the system. Inability to sign on successfully when the potential user wants to and the inability to remain on the system once having signed on, seemed to be the major contributors of the negative attitudes toward the system.

These data are not of the kind necessary to show a causal relationship between attitudes toward the system and contact with it. Nonetheless, Table XXXIII is interesting to consider.

g. Summary

Listed below are the conclusions drawn from this work in response to the six questions of interest identified at the beginning of this subsection. To help put these conclusions in some perspective, each will be presented with the corresponding findings from last year's study conducted by Frierson. As mentioned earlier, only 20 registrants were interviewed last year. With such a small sample size it is difficult to identify reliable findings. For this reason we will only be concerned with broad "trends" apparent over several variables or highly discrepant findings.

1. This year, the only observable difference between users and registered nonusers was academic status: faculty members are more likely to be nonusers. An analysis of several variables from last year's study could not differentiate users from nonusers.

2. In both years of SUPARS service, the reactions of registrants to the publicity-education-aid package (e.g. Users Manual, phone extension 4220, etc.) was, for the most part, highly favorable.

3. Last year, SUPARS was available to the public for one four hour time block each day (this year SUPARS was offered for 2 hours in the morning and 2 in the evening.) Even with longer terminal sessions none of the 12 users interviewed last year made more than 4 SUPARS searches per session. Over all terminal sessions, 58% of last year's users made 10 or less searches. The corresponding figures for this year are, 57% of users made 5 or less searches per terminal session, and 46% made less than 10 searches over all sessions (See Table XXVIII). Both figures are similar over the two years. They are puzzling because they are much lower than we anticipated and causal observation of user behavior indicates. Several possible explanations

a personal copy of the Users Manual, we deposited several copies in various high-usage locations around campus. Registrants without manuals were told the location of these reference copies.

for this low use were mentioned earlier. It will take a thorough analysis of STATPAC data and some systematic observations of users at terminals before we are confident in these data, and possibly have some explanation for their size.

4. Problems encountered by users were, for the most part, the same in last year's operation and this year's. While this seems to indicate that the system was not improved between operations, that is not the case. Approximately 32% of all problems experienced by users this year were not due directly to SUPARS (e.g. operating system failure, or SUPARS not loaded when user attempted to sign on). The major problem encountered both years was the inability of a user to sign on because of high use (the TOO MANY USER message.) While this is counted above as a SUPARS problem it is a function of the size of core portion available to SUPARS which in turn is a function of demand on the computer by other interactive and batch systems.

Improvements were made in this year's system which decreased the number of SUPARS generated error messages. Offsetting this improvement was the fact that this year's operation could not get completely debugged before the system was offered to the public. Programming problems and drastically decreased turn-around time prevented us from meeting our planned time table for development.

5. A difference is apparent between quality of SUPARS' output as judged by last year's and this year's users. Last year only 50% of the users felt the output contained information they wanted. This year the corresponding figure was 91%, a sizeable increase (if reliable). It is possible that improvements in the system accounted for this difference. Another possibility suggests that users rated output quality high in order to resolve an inconsistency between their registering for the system and the frustration using it. We have no evidence bearing on either of these possibilities, one way or the other.

6. General reactions of this year's users toward SUPARS are summarized in Table XXIII. Attitude may be thought of as a function of the degree of contact with the system. Our public relations-education-aid package creates a favorable, inviting view of SUPARS. Initial use of the system is often frustrating, and unless a user persists, he frequently comes away with strong negative attitudes. Users who do persist recognize both the positive and negative aspects of the system.

Comparable data from last year's interviews are not directly available. While users voiced praise and complaints, there did not seem to be the intensity of feeling then as now. If we consider user's attitudes as measured by an attitude scale, last year's users, in general, liked the system. (Frierson & Atherton.)

6. SEMANTIC DIFFERENTIAL - Patricia Moell

One objective of the SUPARS research project has been to measure user reaction to an on-line interactive bibliographic retrieval system. Frierson and Atherton (SUPARS Final Report, 1970) reported on a survey of attitudes toward SUPARS which indicated that registrants exhibited "a definite positive reaction toward SUPARS and computerized information retrieval systems in general." The present report describes a replication of that study to determine if user reaction to SUPARS remains positive.

A Semantic Differential was employed to measure user reaction both to SUPARS as a system and to the services provided by the SUPARS staff. This instrument is considered to be "a reliable means of measuring user reaction to the SUPARS system and perhaps to computer-based information retrieval systems in general." (Frierson and Atherton)

The Semantic Differential (SD) was used because it could identify independent dimensions of users' attitudes toward the system. There were 20 SD's (one for each concept -- see Table XXXIV); each SD consisted of 10 bipolar adjective scales.¹

Seven equal intervals separated the ends of each adjective pair. Each respondent was instructed to react to the concept by marking an interval between each set of adjective pairs. If his reaction to the concept was strongly reflected by an adjective, he was to mark an interval close to that adjective. Each adjective pair, therefore, became an attitude scale. The ten adjective scales and an example of a SD are presented in Table XXXV.

a. Description of Procedure

A SD package plus a preliminary information page and a direction sheet (see Appendix VI) was constructed for each respondent. In each packet the concepts were randomly ordered. To avoid response set, the bipolar adjectives were reflected (e.g., good-bad became bad-good) in four different combinations, so that 5 concepts had the same page layout of bipolar adjectives. For ease of scoring, however, the adjective pairs were presented in the same order on the page, perhaps creating a sequence effect.

A SD packet was given to 29 students in the School of Library Science during regular class sessions. In addition, 73 SD packets were mailed to 21 Library School students and 52 Syracuse University students in other disciplines. It was planned that only students who were users of the system would receive the packets but 10 recipients previously identified as users (through class

¹Though each respondent was asked to react to each concept with 19 adjective scales. The additional 9 scales are being used in a replication of the original factor analysis (see 1970 Final Report, Section IV-B-5). These 9 scales were not analyzed in this report.

TABLE XXXIV

CONCEPTS USED IN THE SUPARS SEMANTIC DIFFERENTIAL PACKET

1. Psychological Abstracts
2. *PA UNDEFINED*
3. Computer
4. *TOO MANY USERS - TRY AGAIN SOON*
5. SUPARS
6. *MAXIMUM DOCUMENTS FOUND*
7. Extension 4220
8. How I found out about SUPARS
9. L1
10. Myself and computers
11. *OUTPUT*
12. Usefulness of SUPARS to me
13. Constructing my search logically
14. Computer Search
15. Free Retrieval Service
16. Δ
17. Terminal
18. *)EXEC PA*
19. Keyword
20. *LIST RECORD*

Concepts 2 and 4 are default messages which tell the user he is unable to use SUPARS. Concepts 3, 9, 10, 13, 14, 15, 17 and 19 are related to computer-based search systems in general. Concepts 5, 7, 8, and 12 relate to general SUPARS features. Concepts 6, 11, 16, 18, and 20 are common components of the SUPARS user-system communications language.

TABLE XXXVI
 CLASSIFICATION OF RESPONDENTS BY COMPLETION OF SEMANTIC DIFFERENTIAL

	Library School Students	Other	Total
Knowledgeable nonusers,* who completed only the first page	6	0	6
Minimally knowledgeable nonusers,† who completed the SD	1	0	1
Knowledgeable nonusers, who completed the SD	3	0	3
Users, who completed at least one SUPARS search	23	17	40
Total	33	17	50

*Registrants who read the manual but did not use SUPARS. One student, for example, made five attempts to use SUPARS, but could not get on.

†Did not read the manual.

TABLE XXXVII

CLASSIFICATION OF RESPONDENTS BY NUMBER OF SEARCHES MADE

Number of Searches	Library School Students	Other Students	Total
0	4	0	4
1-5	6	2	8
6-10	7	3	10
11-15	3	4	7
16-20	4	2	6
21-25	1	2	3
26-30	0	0	0
31-40	0	0	0
41-50	0	2	2
51+	2	2	4
Total	27	17	44

participation or through a STATPAC listing of users' social security numbers) were not users. Four nonusers completed the packet. Of the 102 recipients, 34 Library School students and 18 students in other disciplines responded.² Of the respondents, 27 Library School students and 17 other students filled in the packets.

Since the total number of users identified by the STATPAC printout was less than 100 (although there were other users of the system -- some identified through the Library School, some identified through telephone interviews, and others not identified), selection of recipients of the SD packets was not random. Very few identified users were not sent packets. Whenever possible, users were not sent packets if they were known to be scheduled for a SUPARS phone interview, because of the rather large commitment of student time entailed by each measure. Thus, the selection of users for the study was random only in the sense that after the interviewees had been identified, they were selected at random to fill out the total list of 102 recipients. If the sample is not considered random it may still be representative because we almost used the entire population of known users. Table XXXVI shows the classification of respondents by discipline.

Table XXXVII classifies respondents by number of searches made, and Table XXXVIII classifies them by the number of days on which they used SUPARS. Interestingly, four students made fewer searches than the number of days they used the system. This could be an indication of failure to get on, system failure, time at the terminal, or length of search.

Not all respondents completed all 20 SDs. Several left some concepts blank, some inadvertently, others apparently not. These SDs were not analyzed. SDs for a given concept were also discarded from the study if lines were drawn vertically down the middle of a page to indicate that no reaction or a neutral reaction was present. It was felt that this response indicated that adjective pairs had not been examined individually for the concept.

The ten adjective pairs were grouped into three separate dimensions of reaction to SUPARS and computerized information retrieval systems based on the findings of last year's final report.

The first dimension, "evaluative-specific," was composed of the first four adjective pairs:

slow-fast
active-passive
good-bad
successful-unsuccessful

²Students in other disciplines represent the fields of Psychology, 40%; Education, 20%; and others (such as Journalism and Social Work), 40%. Only 2 persons responding (one a Library School student and one not) refused to complete at least the first page (see Appendix VI) and thus are not represented in any tables, although one was a user of the system.

TABLE XXXVIII

NUMBER OF DAYS STUDENTS USED SUPARS

Number of Days	Library School Students	Other Students	Total
0	4	0	4
1-5	17	11	28
6-10	5	5	10
11-15	1	1	2
TOTAL	27	17	44

The second dimension, "desirability," was composed of the fifth, sixth, and seventh adjective pairs:

hot-cold
colorful-colorless
beautiful-ugly

The third dimension, "enormity," was composed of the final three adjective pairs:

light-heavy
serious-humorous
big-small

b. Data Organization

Forty-four completed or partially completed Semantic Differential packets were analyzed in the study. On each concept sheet the respondent's reactions were coded using a one indicated the most positive reaction possible, a score of four indicated a neutral reaction, and a score of seven indicated the most negative reaction possible.

Contrary to the Frierson-Atherton report, the score for negative concepts (scores larger than 4) were not reflected since it was felt that although the concepts in themselves are intuitively negative, they remain negative nevertheless, and their contribution toward the overall mean for the dimension

should indicate their negative quality.

The means of the total concept scores were calculated by dimension (Table XXXIX). The twenty concepts are listed separately and arranged into the groups suggested in XXXIX. Table XL shows the corresponding standard deviations.

c. Results

The concepts were divided into five groups based on their relation to a group concept or topic. The five groups are: (1) Psychological Abstracts, (2) computers in general, (3) SUPARS in general, (4) SUPARS computer language and (5) SUPARS default language.

From Table XXXIX it can be seen that users reacted most positively to Group II, computers in general, and most positively to the individual concepts of free retrieval service and computer in Group II, and L1, Δ, and "How I Found Out About SUPARS" from other groups (especially on the evaluative-specific dimension.)

Generally, reactions to individual and group concepts (with the exception of the SUPARS default language concepts) were slightly positive. The means regressed from positive toward neutral from Dimensions I to III to II. The evaluative-specific dimension indicated the most positive reaction, and the desirability dimension the least. Standard deviations moved from high (the highest a 1.59 for Dimension I — Terminal) to low (the lowest 0.66 for Dimension III — L1) along Dimensions I to III. Standard deviations were highest for Group 5, the negative concepts, and lowest for Group 4, the computer language group.

d. Comparison with the Results of Last Year's Study

Overall, the respondents' reactions to SUPARS this year were not as positive as those last year. In fact, both the dimensions of desirability and enormity had column means greater than 3.50, indicating that the reaction was only slightly more positive than neutral. Last year only the dimension of enormity exceeded 3.50. This year enormity was shown to be more positive than desirability, whereas the opposite was true in the 1971 study.

As in the previous study, Group II was regarded most positively, with free retrieval service again the most positive concept and computer the second most positive.³

The more neutral reactions of this study as compared to the last are not merely a result of the difference in reflecting last year's scores and not reflecting this year's for the negative concepts. Reactions are more neutral across all individual concepts and across all groups.

³But as one respondent commented at the top of the page - "free to Whom? The taxpayer?"

TABLE XXXIX

CONCEPT MEANS

ADJECTIVE PAIRS

Concept Groups	ADJECTIVE PAIRS			Group Means		
	Dimension I Evaluative-Specific	Dimension II Desirability	Dimension III Enormity	I	II	III
1. Psychological Abstracts	3.42	3.94	3.19	3.42	3.94	3.19
computer	2.50	3.50	3.20			
output	3.03	3.56	3.61			
myself and computers	3.09	3.26	3.48			
constructing my search logically	3.35	3.67	3.46	3.03	3.48	3.58
computer search	3.22	3.66	3.54			
free retrieval service	2.48	3.18	3.63			
terminal	3.43	3.60	3.86			
keyword	3.13	3.42	3.82			
SUPARS	3.38	3.44	3.45			
extension 4220	3.15	3.35	4.02			
how I found out about SUPARS	2.85	3.54	3.95	3.29	3.52	3.78
usefulness of SUPARS to me	3.77	3.77	3.70			

TABLE XXXIX
(CONTINUED)

	Dimension I	Dimension II	Dimension III	Group Means
4. COMPUTER LANGUAGE	maximum items possible			
	L1	3.18	3.69	3.75
	Δ	2.76	3.50	3.95
)EXEC PA	2.89	3.66	3.90
	List record	3.71	3.83	3.82
5. SUPARS LANGUAGE		3.17	3.58	3.81
	PA undefined	4.84	4.94	3.33
	Too Many Users	4.86	4.93	3.23
Column Means	3.31	3.70	3.63	4.85
				4.94
				3.28

TABLE XI

STANDARD DEVIATIONS FOR CONCEPT MEANS

Concept Groups	ADJECTIVE PAIRS				Group Standard Deviation	
	Dimension I Evaluative-Specific	Dimension II Desirability	Dimension III Enormity	Group Standard Deviation		
	Fast-Slow Active-Passive Good-Bad Successful- Unsuccessful	Hot-Cold Colorful- Colorless Beautiful- Ugly	Light-Heavy Serious- Humorous Big-Small	I II III		
1. <u>Psychological Abstracts</u>	1.36	1.27	1.14	1.36	1.27	1.14
computer	1.30	1.18	1.04			
output	1.38	1.06	0.88			
myself and computers	1.43	1.28	1.04			
constructing my search logically	1.42	0.99	0.69			
computer search	1.45	1.06	0.84			
free retrieval service	1.30	0.90	0.74			
terminal	1.59	1.24	0.78			
keyword	1.41	0.88	0.98	1.40	1.07	0.88
2. SUPARS	1.49	0.98	1.03			
extension 4220	1.56	1.13	0.56			
how I found out about SUPARS	1.22	1.11	0.76			
usefulness of SUPARS to me	1.48	1.26	0.86	1.47	1.12	0.85

TABLE XL

(CONTINUED)

	Dimension I	Dimension II	Dimension III	Group Standard Deviations	
5. SUPARS 4. COMPUTER LANGUAGE	1.20	1.03	0.68	1.34	1.02
	1.18	0.82	0.66		0.89
	1.47	1.01	1.04		
	1.22	0.66	0.72		
	1.24	1.08	0.94		
5. SUPARS 4. COMPUTER LANGUAGE	1.49	1.14	0.93	1.46	1.37
	1.43	1.55	1.23		
Standard deviation of all means	1.50	1.18	0.91		

e. Conclusions

The results of this study indicate a slightly positive reaction toward SUPARS and computerized information retrieval systems in general. They also indicate a more negative reaction to SUPARS and other systems by this year's registrants in comparison with last year's. The most positive reaction was recorded in the evaluative-specific dimension, lending credence to the assumption that the dimensions of desirability and enormity are less specifically applicable to the concepts used.

The standard deviations of all the means are relatively low. This may indicate similarity of opinion concerning SUPARS and other computer retrieval systems. Since most of the means tend to be near neutral (or 4), however, the low standard deviation probably reflects a high concentration of neutral reactions. An examination of individual scores would lend support to this conclusion.

The results are generally in accord with those of last year's study, indicating reliability of the testing instrument. The overall less positive reactions recorded may be a result of actual differences in attitude toward SUPARS and computerized retrieval systems this year as compared with last. It would be helpful to compare the results of user reactions via the interview method for the two years to see if this conclusion holds true. (This is included elsewhere in this report.)

f. Discussion

Several factors must be considered in relation to the results of the study. First, for purposes of scoring, bipolar adjective pairs were not randomly distributed on a page. Since an examination of individual concept pages would show that scores tend toward 4 in the middle and lower ranges of the page, it would seem that the dimensions of desirability and enormity might suffer from the location of adjective pairs. Attitude pairs could be distributed randomly on the page with no loss of scoring ease by assigning numbers to each attitude pair in combination with a 1 or 2 to indicate which way the score should be read. These numbers could be keypunched along with the score and then read by computer.

Second, the difference in user reactions to concepts last year and this year might be a function of differences in service. Of interest is the fact that for both years computer is a more attractive concept than SUPARS, despite the fact that free retrieval service is the most positive concept of all. Perhaps the more negative image of the concept SUPARS has some causal factors.

Third, the many neutral reactions might be an indication of lack of use of a concept rather than a lack of interest. Extension 4220, for example, which scored a 4.02 in enormity brought forth statements such as "never use it." In other words, neutrality may be a result of a lack of familiarity with the concept rather than neutral feelings about it.

Fourth, the fact that this year's division of concepts into dimension as a result of last year's rotated factor matrix might render the results doubtful if a factor analysis of this year's results alter the components of these dimensions.

Last, the similarity in structure of responses over the two years indicates that the Semantic Differential tends to measure these concepts in the same ways. The less positive results of the study might well indicate, therefore, a greater dissatisfaction with SUPARS this year than last.

7. IMPLICATIONS AND PROJECTIONS - Kenneth Cook

a. User Orientation

The necessity for the integration of the user as a major part of designing interactive retrieval systems cannot be overemphasized. For the system that does not use intermediaries, user integration becomes of paramount concern. Consideration for the user goes well beyond just the design stage. Equally important is a need to inform, instruct, and educate people who are users and potential users. The final, and perhaps the most critical aspect of user orientation, is the necessity of determining user reaction in terms of attitudes, opinions, and behavior.

The various techniques used to evaluate user reaction to the SUPARS/DPS system indicated that problems related to the user and the user interface with the system were almost as prevalent as problems related directly to hardware and software component malfunctions or interruptions. A study dealing with free-text retrieval (4) found that over 85% of the problems and retrieval failures resulted from either the search process or the user/system interaction.

What these findings seem to imply is that an important overlooked function in the development of a user-oriented retrieval system is the inclusion of a strong publicity/information and education/instruction effort. To make the assumption that people will be eager to approach what they might consider to be a mysterious system controlled by an unseen computer simply because the designers were enamored with the system is, at best, a guess, and at worst, the basis for potentially maintaining a little used or understood system.

b. Publicity and Instruction Functions

Because the boundary between education/instruction and publicity/information is difficult to draw, and some activities encompass both areas, a distinction between the two is made here simply for descriptive purposes. The techniques mentioned below were found to have a positive effect on increasing the number of SUPARS/DPS users and instructing users to be self-motivated and independent of an intermediary.

In the area of publicity/information, some of the most useful techniques related to making the existence of the system known and popular were (1) personally addressed letters announcing the upcoming system to potential opinion leaders, (2) short, descriptive brochures explaining what the system can do, when it will operate, how to get more information, who is in charge, and why the system is being operated, (3) posters, notices, or advertisements in-house organ, (4) small-group demonstrations and talks, preferably with hands-on terminal experience, augmented either with slides or movies and (5) locally posted examples of computer generated input and output to prepare users with examples of what to expect when they use the system.

In the general area of education/instruction, demonstrations and hands-on experience with a terminal can be helpful when slanted to emphasize how to actually use the system. In addition, the education/information functions most useful included: (1) a special telephone number that users could call whenever they needed help with use of the system, and provided a search expert to talk with, (2) an easily available user's manual emphasizing self-instruction, with extensive use of input and output interaction, and a step-by-step procedure for developing search inquiries. The Users Manual was found to be one of the most important and helpful devices in developing a user population that could independently learn how to use an interactive retrieval system, (3) a small, "Pocket Reminder Card" containing a summary of the essential elements of using the system that could be used in place of the manual when a user had acquired the basic skills of searching.

c. User Control of Interaction

In addition to the areas of publicity/information and instruction/education, a user approach to system design has to emphasize a maximum of user control in the interactive dialogue. User control implies that the interactive dialogue should provide an individual with a chance to constantly switch tactics at any point in the dialogue. For example, this might mean the ability to use a single keystroke to cancel an inquiry that was being developed and begin another, or the chance to use a single keystroke and jump from one data base to another. This ability to switch tactics would have as its goal the opportunity for an individual to make a decision and implement it at a terminal as quickly as he mentally makes the decision.

The SUPARS/DPS system was implemented to provide as many decision/implementation points as possible in the user interaction. In effect, the user remained in control as much as possible and did not have to wait for lengthy computer replies or type more than one or two keystrokes to implement a change that he has just decided on.

Another aspect of the user orientation to free-text searching without intermediaries means that an individual should have additional supply of potential search keywords available at any point in the interactive dialogue. The ability to easily obtain new words through a free-text vocabulary, or through previously stored search inquiries was a key user-related improvement in the current research.

d. Obtaining User Response

One of the final requirements for developing a user orientation in designing and redesigning is the use of techniques to obtain user response that can be used as feedback to modify aspects of the total user/software system.

An important facet of obtaining user response is the need for using more than one method of data collection to insure that a single method, in itself, would not be a biasing factor in obtaining a certain type of response. The other related facet is the need for gathering more than one type of response or behavior in order to obtain more than one dimension of a user's response to the system. This multi-method, multi-trait technique was employed in the current research and provided the advantage of avoiding a myopic viewpoint when analyzing the complexity of the user's response to an interactive system.

Several generally accepted techniques of the social sciences have been employed to obtain objective and verifiable data, such as a Semantic Differential Attitude Scale, personal, in-depth interviews, records of telephone inquiries, and unobtrusive measure of user interaction.

e. Conclusion

The difference between the ability to design a highly adaptive retrieval system and a highly adaptive system that is well known and maximally used might lie in the designer's ability to shift his focus from defining the "system" as the hardware and software to an enlarged concept of the system that puts the user on an equal footing.

Projected interactive systems of the future not able to support highly trained intermediaries will have to follow the axiom of "beginning with the user and designing outward." The beginning-with-the-user of SUPARS/DPS and its concurrent high use has been in great part a function of the techniques discussed in the previous sections.

As Paisley (1968) points out "...Computer based storage and retrieval systems that are not integrated into these social, political, and economic systems will be expensive, unused novelties." (5)

Paisley's statement could also be viewed from the other side of the coin to emphasize that "social systems of users that are not integrated into computer retrieval systems can result in uninterested, little informed nonusers.

APPENDIX IV

PROGRAM DESCRIPTION OF SUPARS STATPAC Michael McMullen

The SUPARS STATPAC was written to fill the need for a package of programs to analyze and summarize the activity that occurred through the Search Monitor.

The major considerations in the writing of the package were:

1. The package must be usable by relative non-programmers.
2. The diverse data types and forms demand a flexible package which could handle rather variable records.

The approach which was chosen was to make use of the compile-time preprocessor available in IBM PL/1. What was written was a large body of pre-processor statements which would conditionally create the source code for any program which was desired for analyzing the Monitor statistics. This program is henceforth referred to as MACRO.

This approach was taken because of the facility with which it fulfilled the two major criteria stated above. The package is relatively easy to use since the input to MACRO consists of simple keyword assignment statements. The user need have very few concerns about the data types being handled since once the basic data description is inserted in the program it will take care of all data conversions.

Data Flow of SUPARS Log

The activity log as produced by the Monitor consists, for each search number generated, of a possible 14 different types of records. Each of these different types of records are produced by a different type of activity within the monitor. One record is produced when the Monitor is brought up and records the date and time thus producing a date for all records that follow. For each search a separate record is produced for each of the following things: the entry of a delta (time and type), the input of a search line or the production of a line of output (the text of that line), the entry of a GO or STAT or OFF or the pushing of attention to halt output, etc.

Due to factors such as the greatly increased handling and preparation needed for each use of the log data it was elected to combine the many small records for each search into one large record. To accomplish this a PL/1 program was written which merged the records for each search. This program is henceforth referred to as CONVERT.

Since the log records as produced by the Monitor were not strictly in order by search, due to the fact that several searches could be in progress

simultaneously, it was first necessary to sort the records as to search number. This was done through the use of the IBM SORT/MERGE package. These sorted records were then used as input to CONVERT.

Before beginning the actual processing of the records several parameters are first set in the program. The first of these are conversion factors to be used in the computation of cost figures for each search. Also set were two parameters which determined the first and last search to be processed.

The records produced by CONVERT consist of a constant header followed by a variable portion. The constant header contained such information that had a constant length and form, such as search number, user number, terminal number, etc. The variable portion of the record contained those items which were conditionally produced by the monitor and which could occur in variable numbers and lengths, these were such things as the input and output lines and search error codes.

At the same time that the records were being reformatted for use in statistical analyses another set of records were being produced by CONVERT. These records were the ones that served as input for the establishment of the data base for later delta S searches through the Monitor.

CONVERT also did a certain amount of data cleaning and supplied default (usually zero) values for any record types which were not received for a particular search.

The flow of data through STATPAC programs, MONITOR, SORT, and CONVERT, is graphically shown in Figure No. 1.

A detailed description of the STATPAC program follows. The programs referred to are all explained in the flowcharts labeled Figures 2 through 5.

Figure No. 2 describes the overall logic flow for producing STAT output. Figure No. 3 is a more detailed description of the conversion program which produces the records STATPAC operates on.

The actual STATPAC processing programs, MACRO and PROCESS are explained in Figures 4 and 5, respectively.

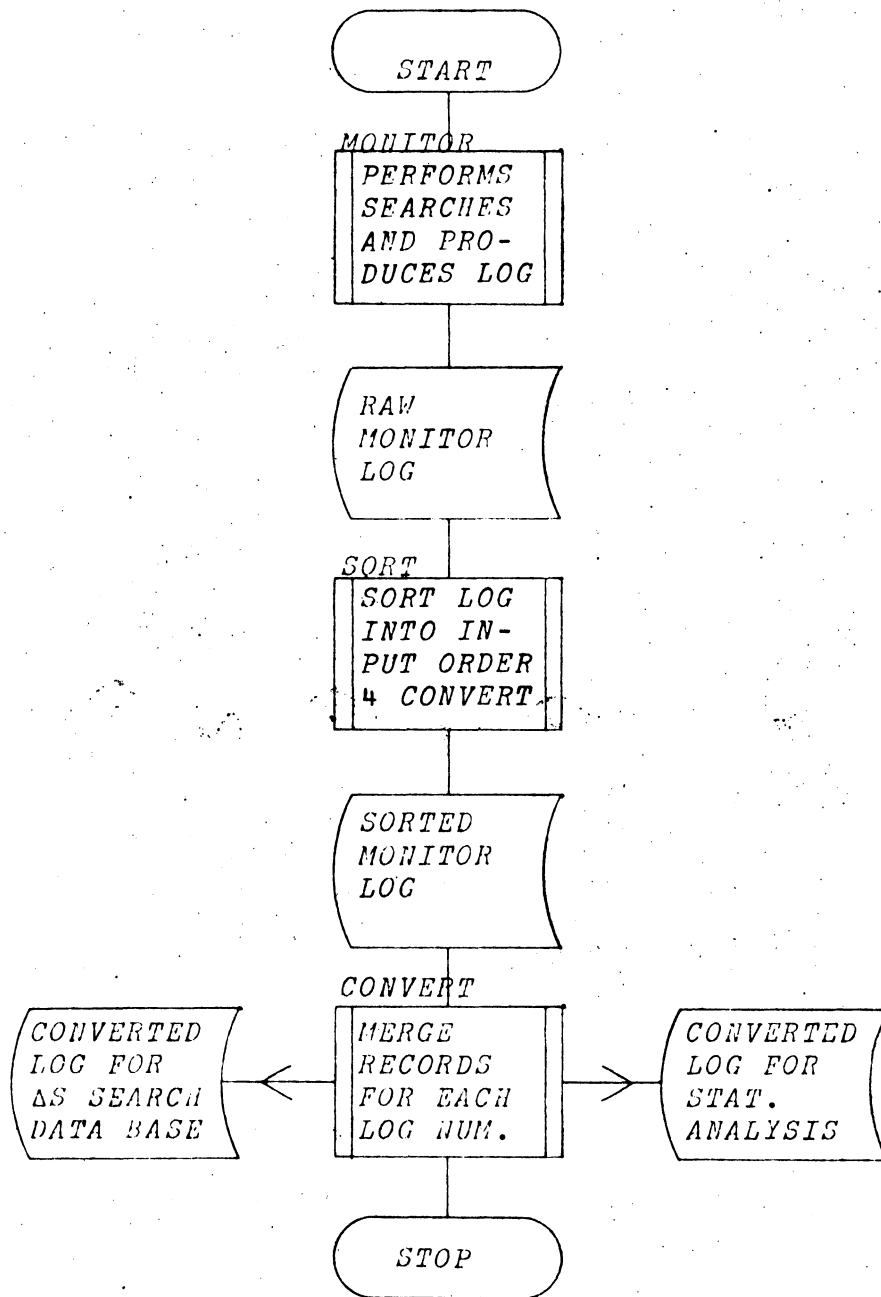


Figure No. 1 Data Flow of SUPARS Log

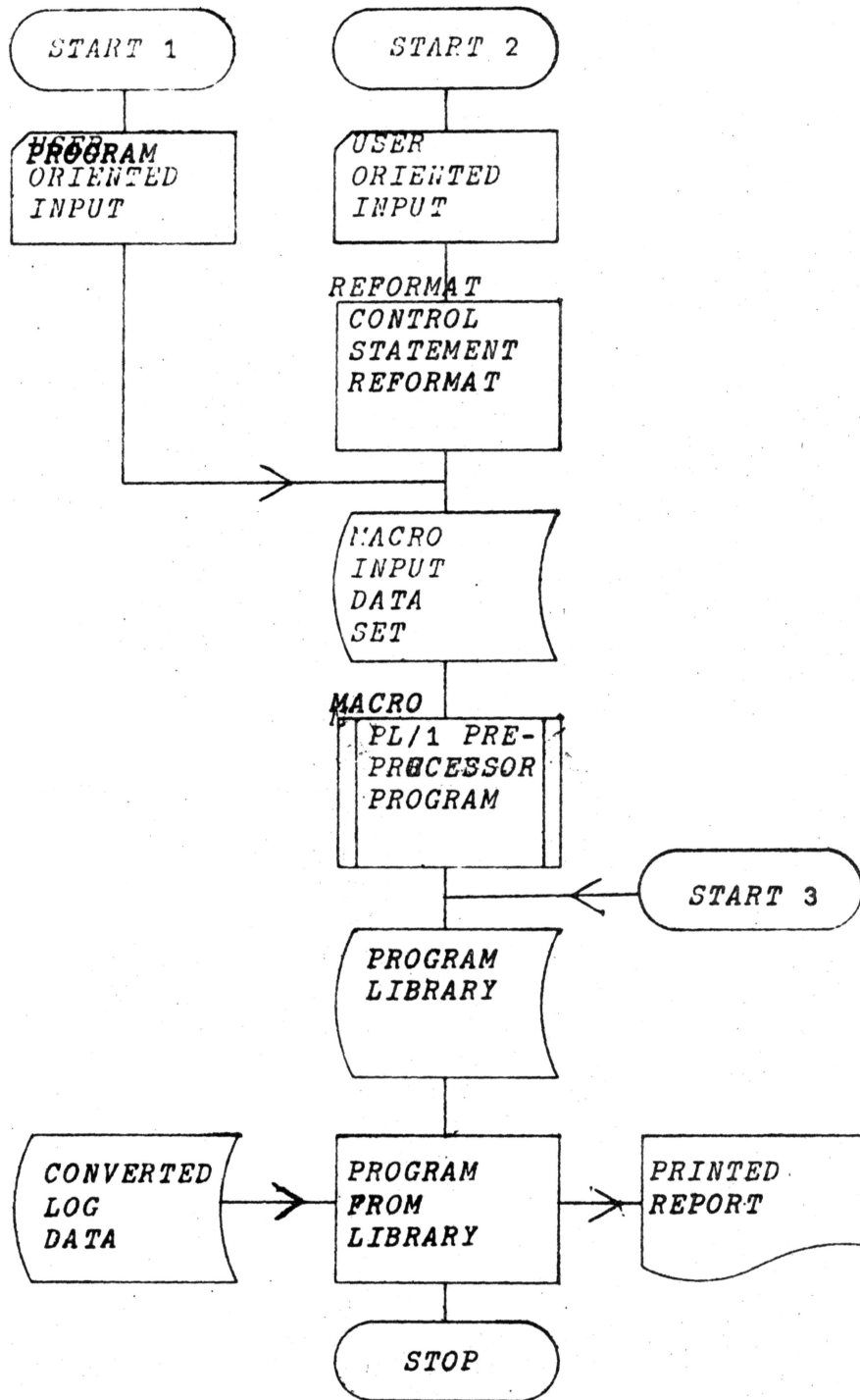


Figure No. 2 Program Flow for Producing STAT Output

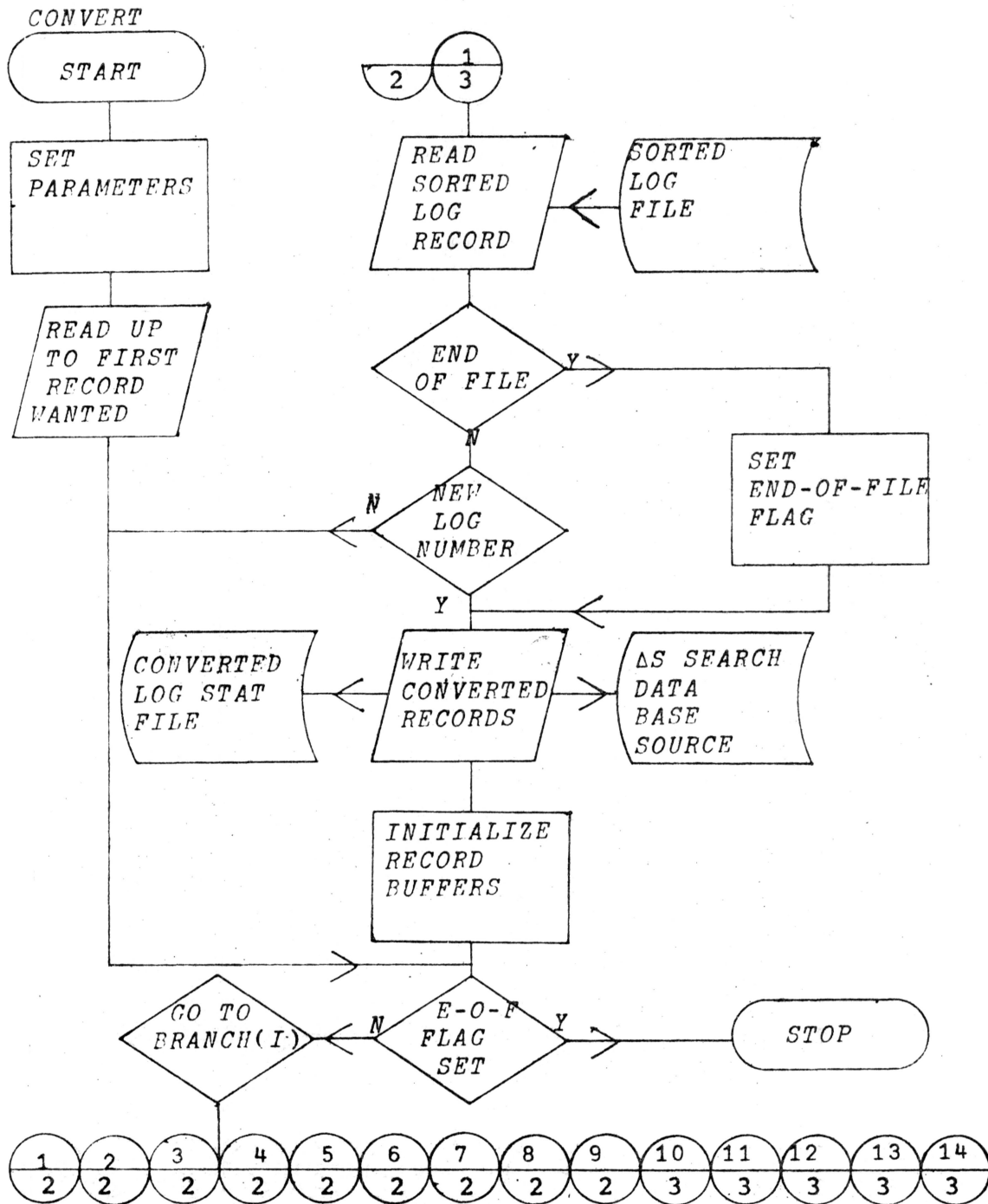


Figure No. 3 Program for Conversion of Log to STAT Usable Form

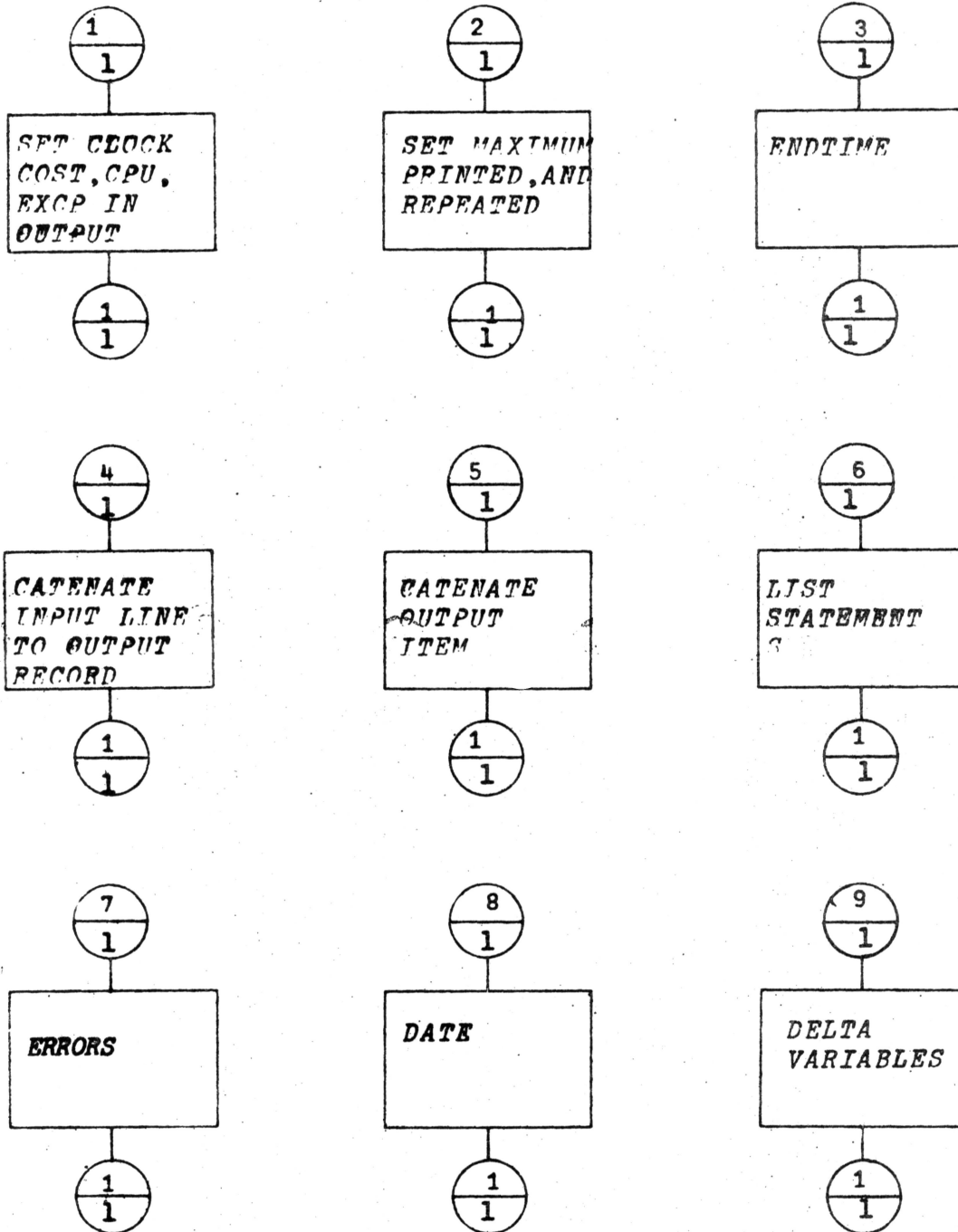


Figure 3 (Continued)

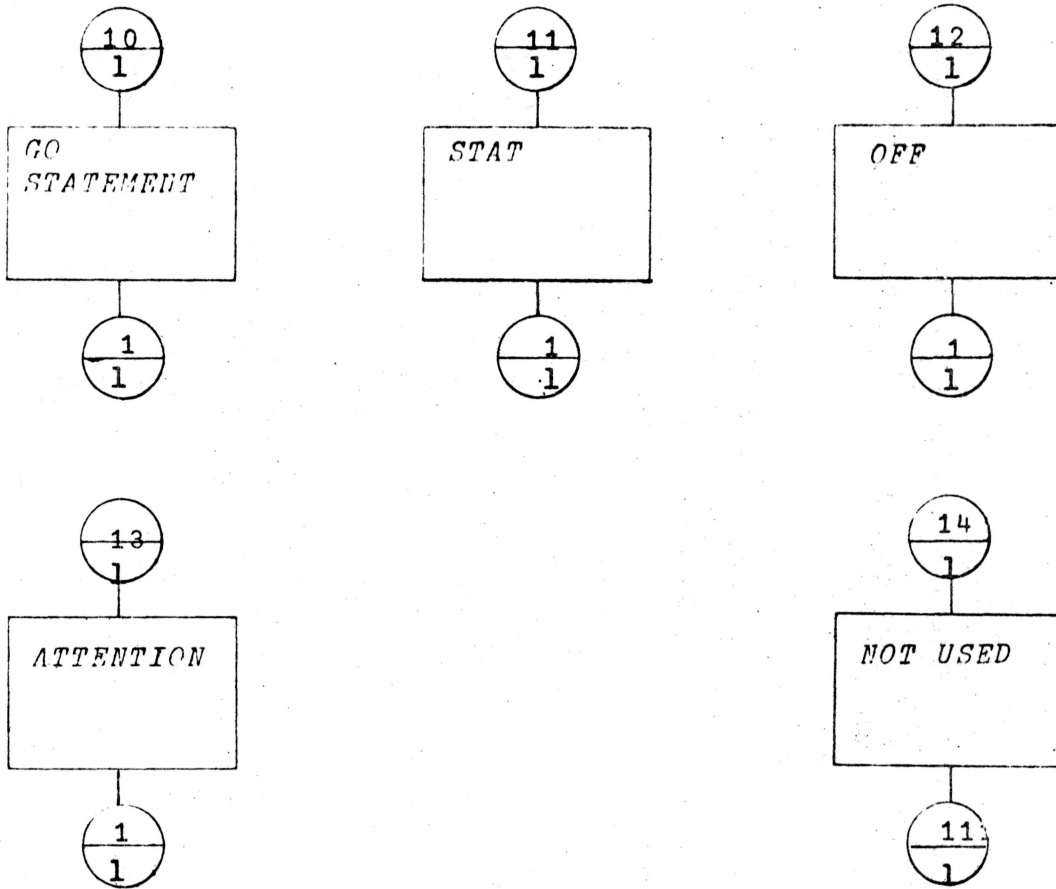
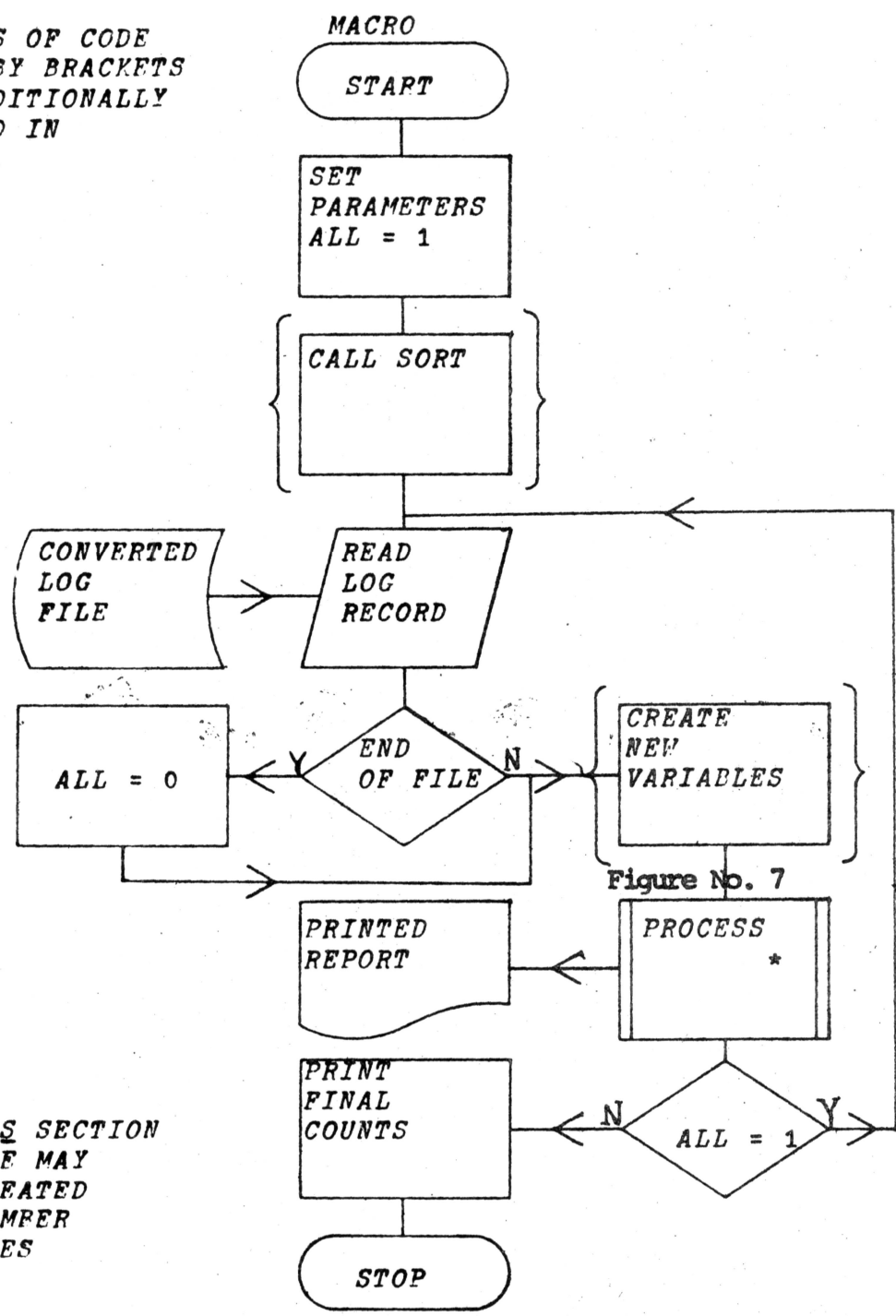


Figure 3 (Continued)

SECTIONS OF CODE MARKED BY BRACKETS ARE CONDITIONALLY INCLUDED IN PROGRAM CREATED



* PROCESS SECTION OF CODE MAY BE REPEATED ANY NUMBER OF TIMES

Figure No. 4 MACRO - General Outline of STAT Programs

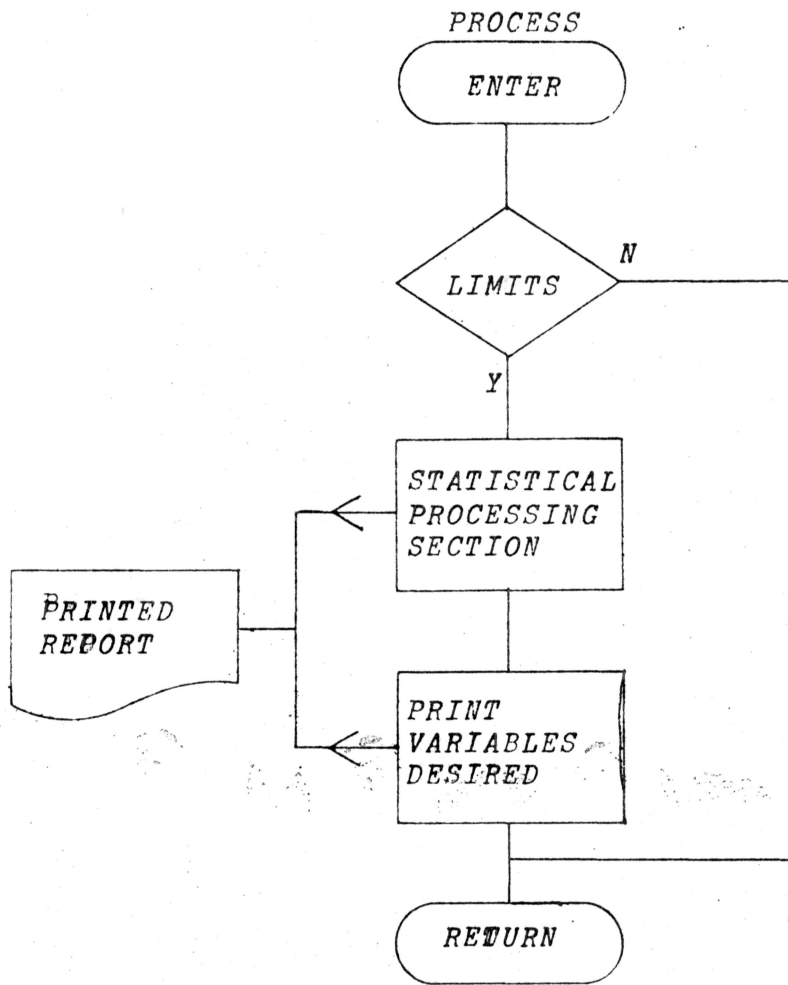


Figure No. 5 Process - Main Working Section of STAT Programs

When using the SUPARS STATPAC there are 3 ways in which a STAT run can be initiated.

The first is where a series of control statements are entered into MACRO through the use of reformat. Reformat is an assembler language program which takes control statements in a user oriented form and reformats them for entry in MACRO in a program oriented form. REFORMAT allows the user to utilize several alternative characters (e.g. \div for /), takes care of the insertion of certain details demanded by MACRO and also does a certain amount of error checking such as looking for unmatched parentheses. REFORMAT is intended for use with input from an IBM 2741 terminal but is usable with simple card input.

If it is not desired to use REFORMAT the second starting point for a STAT run is used. Here input is made directly into MACRO. Here however, the control statements must already be in a program oriented form.

Whichever form of input was used MACRO at this point takes the control statements and uses them to produce a PL/I source program which is then compiled. The object program is then placed in a program library.

This object program created is loaded and executed to produce the final printed report.

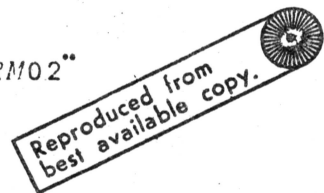
This is the third entry point into the sequence. If the program that is desired has already been created then one need simply call it up from the program library thus bypassing the earlier creation steps.

A Sample Set of Control Statements (As to be input to REFORMAT)

```
TITLE      "SAMPLE CONTROL STATEMENTS"
CREATE     "NEWVAR = CPU * 0.1 + EXCP;"
LIMITS    "DATE ~< PARM01 * DATE ~< PARM02"
SORT      "SSN,A,DATE,D"
PRINTS    "SSN,LOGN,CALENDAR,NEWVAR"
STATS     "SUM (ALL=1,NEWVAR)XLISTER (SSN,CALENDAR)
```

(As to directly input or as output by REFORMAT)

```
TITLE      = 'SAMPLE CONTROL STATEMENTS';
CREATE     = 'NEWVAR = CPU * 0.1 + EXCP; '['
LIMITS    = 'DATE ~< PARM01 * DATE ~< PARM02';
```



```

SORT      =   'SSN,A,DATE,D';
PRINT     =   'SSN,LOGN,CALENDAR,NEWVAR';
STATS     =   'SUM(ALL=1,NEWVAR) XLISTER(SSN,CALENDAR)';

```

The resultant program would have the following characteristics. At the top of each page of output would be printed the line 'SAMPLE CONTROL STATEMENTS'. A new variable would be created which would contain the value obtained by multiplying the variable CPU by 0.1 and adding the variable EXCP.

The cases that would be accepted for analysis would be those in which the variable date was not less than the variable PARM01 and not greater than the variable PARM02.

The input data set would be sorted first by the variable SSN in ascending order and secondarily by the variable date in descending order. For each case accepted under the conditions set by limits the variables SSN, LOGN, CALENDAR, and NEWVAR will be printed.

STATS would cause the following statistics to be accumulated:
SUM ASKS THAT THE SUM, MINIMUM, MAXIMUM, AND MEAN OF THE VARIABLE+NEWVAR BE ACCUMULATED WHILE THE VARIABLE ALL CONTAINED THE VALUE 1.

XLISTER asks that for as long as consecutive cases of input contain the same SSN a frequency count for the variable calendar+ be kept and when the value of SSN changes this frequency count be printed and a new one started.

MACRO as stated in the introduction the heart of the SUPARS STATPAC system is the PL/1 pre-processor program referred to as MACRO through the setting of a series of pre-processor variables a processing program for the log is written. This program will conditionally include the code necessary to perform the tasks that you desire. The pre-processor variables that were used were called SORT, LIMITS, TITLE, CREATE, STATS, and PRINT.

The variable SORT allows you to specify that the input data set is to be sorted into whatever input order you specify. The value assigned to SORT consists of a series of variable name, sort direction pairs.

The variable TITLE is simply used to define a title header which is to be printed at the head of each page of output.

CREATE allows the creation of new variables from old variables for use in later print and STATS sections.

LIMITS is used to define criteria for the selection of cases to be processed by the program created.

PRINT is a list of variable names, a PRINT statement will be created to print the value of these variables for each case selected for processing.

by the program. The creation of this PRINT statement makes use of two tables which are set up to describe the data base that the programs created are to process. The first of these tables is a list of print format items. They describe how each of the variables is to be printed. The second table contains the header field which is to be associated with each variable. This table is used to construct a header for the top of each page of output. New variables from any create statements automatically have entries generated in these tables for them.

Most important of all is the STATS pre-processor variable. This variable is used to create the segments of code which will do any statistical analysis desired. The value assigned to it consists of a series of keywords each followed by a list of arguments. According to which keyword is specified code is generated utilizing the arguments to perform the analysis desired. Some of the types of analysis we had available were: count the number of occurrences of a stated logical condition, find the sum, minimum, maximum, and mean, or accumulate a frequency count for a variable.

APPENDIX V

SUPARS TELEPHONE SURVEY QUESTION AND
REGISTRATION FORM

SUPARS TELEPHONE SURVEY QUESTIONNAIRE

12/71

REGISTRANT'S NAME: _____ TELEPHONE: _____

ACADEMIC STATUS: _____ DEPARTMENT: _____

SOCIAL SECURITY NUMBER: _____

<u>TIME</u>	<u>DATE</u>	<u>COMMENTS</u> (LIST ALL ACTION FOR EACH TELEPHONE CALL. IF INTERVIEW IS COMPLETED, ENTER "INTERVIEW COMPLETED.")
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

INTRODUCTION

Hello, my name is _____ and I am calling for SUPARS. We're doing a survey of people who registered to use the SUPARS system to get Psychological Abstracts by computer. We would appreciate it if you could give us a few minutes of your time. This won't take more than six minutes and in some cases it will be much shorter.

(IF THE RESPONDENT DOES NOT HAVE THE TIME FOR AN INTERVIEW, ASK HIM/HER WHEN IT WOULD BE MORE CONVENIENT FOR HIM/HER, AND BE SURE TO NOTATE THE TIME UNDER "COMMENTS.")

1. Do you remember registering to use SUPARS?

- Yes (GO TO QUESTION 2) _____
No (PROBE, IF RESPONDENT STILL DOESN'T REMEMBER OR STATES THAT SHE/HE NEVER REGISTERED, THANK HER/HIM FOR THE TIME AND DISCONTINUE INTERVIEW.) _____

2. Have you ever gone to a terminal to try to use SUPARS?

Yes (ADMINISTER SECTION 1) _____
No (GO TO QUESTION 3) _____

3. Why haven't you ever gone to a terminal to use SUPARS?

(ADMINISTER SECTION 4)

SECTION 1: GENERAL USAGE

1. How often do you go to the terminal to try to use SUPARS? (PROBE)

Daily _____
Several times a week _____
Once a week _____
Less than once a week _____

2. Were there any days when you went to a terminal more than once to try to use SUPARS?

Yes _____
No _____

3. When at the terminal, have you been able to sign-on to SUPARS at least once? By signing on I mean, being able to reach the point where you can type in a delta to begin a search, after having typed in EXEC PA and your social security number ?

Yes (GO TO QUESTION 7) _____
No (GO TO QUESTION 4) _____

4. Why haven't you been able to sign on to SUPARS?

5. How much time do you estimate that you have spent in trying to use SUPARS? (PROBE)

Less than 1 hour _____
1-2 hours _____
2-5 hours _____
5-10 hours _____
over 10 hours _____

(STOP HERE: ADMINISTER SECTION III)

7. Have you ever been unable to sign-on to SUPARS? (SIGN-ON IS DEFINED IN QUESTION 3)

Yes (GO TO QUESTION 8) _____
No (GO TO QUESTION 9) _____

8. What kinds of problems have prevented you from getting signed on?

9. Have you ever had any problems searching SUPARS after you have signed on? That is, after you have typed in your first delta to start your first search?

Yes (GO TO QUESTION 10) _____
No (GO TO QUESTION 11) _____

10. What kinds of problems have you had?

11. How many searches do you estimate that you have started using SUPARS? (PROBE)

1 search _____
2-5 searches _____
5-10 searches _____
10-20 searches _____
20-50 searches _____
over 50 searches _____

12. Have you been able to complete--that is, enter and receive output from a search--any searches using SUPARS? (BEING TOLD THAT THERE ARE NO ABSTRACTS FITTING YOUR SEARCH IS ALSO CONSIDERED A COMPLETED SEARCH.)

Yes (GO TO QUESTION 16) _____
No (GO TO QUESTION 13) _____

13. What problems have you had?

14. How much time do you estimate that you have spent in trying to use SUPARS at the terminal? (PROBE)

less than 1 hour _____
1-2 hours _____
2-5 hours _____
5-10 hours _____
over 10 hours _____

(STOP HERE: ADMINISTER SECTION 3)

16. Roughly, what percentage of all searches that you've tried have been completed? (PROBE)

- 0-10% _____
- 10-20% _____
- 20-40% _____
- 40-60% _____
- 60-80% _____
- 80-90% _____
- 90-100% _____

17. Generally, how many searches (or how many deltas) do you attempt in one visit to the terminal? (PROBE)

- 1 search _____
- 2-5 searches _____
- 5-10 searches _____
- 10-20 searches _____
- 20-50 searches _____
- over 50 searches _____

18. Approximately how much time do you spend in one session at the terminal? (PROBE)

- Less than 5 minutes _____
- 5-15 minutes _____
- 15-30 minutes _____
- 30-60 minutes _____
- 60 minutes to 2 hours _____

(STOP HERE: ADMINISTER SECTION 2)

SECTION 2: REACTIONS

1. In general, do you feel that the output you have gotten from SUPARS contains the information you want?

- Yes (TO TO QUESTION 4) _____
- No (GO TO QUESTION 2) _____

2. In what percentage of your searches would you say that the output has not contained the information you wanted? (PROBE)

- 10-20% _____
- 20-30% _____
- 30-40% _____
- 40-50% _____
- 50-60% _____
- 60-70% _____

70-80%
80-90%
90-100%

3. In what way is the output unsatisfactory?

4. Have you ever used the printed Psychological Abstracts?

Yes (GO TO QUESTION 5)
No (GO TO QUESTION 9)

5. Do you find SUPARS faster to use than the printed Psychological Abstracts?

Yes
No

6. Do you find SUPARS easier to use than printed Psychological Abstracts?

Yes
No

7. Do you find that SUPARS helps you to find more relevant information than you would find using printed Psychological Abstracts?

Yes
No

8. Have you located relevant articles through SUPARS which you probably would not have found without SUPARS?

Yes
No
Don't know

9. What have you liked most about using a computerized information retrieval system?

10. What have you liked least about using a computerized information retrieval system? (PROBE: Has anything in particular frustrated you about SUPARS?)

11. As you know, when you use SUPARS, you can choose any word or words that you like as your keywords. Do you think you would prefer instead having a list of words from which you could choose your keywords?

Yes having a list
No using own words

(STOP HERE: ADMINISTER SECTION 3)

SECTION 3: OTHER INFORMATION

1. How did you first find out about SUPARS? (PROBE)

- Daily Orange _____
- Record _____
- Syracuse New Times _____
- Posters (GIVE LOCATION!) _____
- SUPARS Classroom Demonstration _____
- Professor _____
- Friend _____
- Other (SPECIFY) _____

2. Have SUPARS's operating hours been convenient for you?

- Yes (GO TO QUESTION 4) _____
- No _____

3. What hours would you prefer?

4. Did you receive a User's Manual after you registered?

- Yes (GO TO QUESTION 7) _____
- No _____

5. Were you able to gain access to a manual?

- Yes _____
- No (GO TO QUESTION 15) _____

6. How did you gain access to a manual?

- A friend _____
- Library School Resource Center _____
- Psychology Department _____
- Carnegie Library _____
- Other (SPECIFY) _____

7. Did you read the manual before trying to use SUPARS?

- Yes (GO TO QUESTION 9) _____
- No _____

8. Have you read your manual since then?

- Yes _____
- No (GO TO QUESTION 15) _____

9. Do you take your manual with you to the terminal when you search SUPARS?
- Yes _____
No _____
10. Did the manual present the material clearly?
- Yes (GO TO QUESTION 12) _____
No _____
11. What do you feel was not presented clearly in the manual?
12. Did you feel that anything was left out of the manual that you wanted to know?
- Yes _____
No (GO TO QUESTION 14) _____
13. What do you feel was left out?
14. Did you learn more from the manual or from actual practice at the terminal?
- Manual _____
Terminal _____
Wasn't able to learn anything _____
15. Did you receive a Pocket Reminder Card. (PROBE: A small folded pocket-sized card, summarizing the main steps in using SUPARS.)
- Yes _____
No (GO TO QUESTION 20) _____
16. Did you use the Pocket Reminder Card?
- Yes _____
No (GO TO QUESTION 19) _____
17. Did you find it helpful?
- Yes _____
No _____
18. What would make it more helpful?
19. Do you take the Pocket Reminder Card with you to the terminal when you search SUPARS?
- Yes _____
No _____

20. Have you ever had a demonstration of the SUPARS system?

Yes (GO TO QUESTION 22)

No

21. Were you aware that demonstrations were available?

Yes

No

22. Have you ever called extension 4220 for help with questions or problems about SUPARS?

Yes

No (GO TO QUESTION 25)

23. How often have you called extension 4220 for help?

24. Has the person answering been able to help you?

Yes

No

25. Do you intend to use SUPARS again this week?

Yes

No

Don't know

26. Would you sign up for SUPARS if it became available again?

Yes

No

Don't know

27. Give me two or three adjectives or other words which might best describe or characterize your experience with SUPARS.

28. Do you have any questions now about SUPARS which you would like to ask?

Thank you for your time and cooperation.

SECTION 4: OTHER INFORMATION

1. How did you first find out about SUPARS? (PROBE)

Daily Orange
Record

Syracuse New Times _____
Posters (GIVE LOCATION) _____
SUPARS Classroom Demonstration _____
Professor _____
Friend _____
Other (SPECIFY) _____

2. Have SUPARS's operating hours been convenient for you?

Yes (GO TO QUESTION 4) _____
No _____

3. What hours would you prefer?

4. Did you receive a User's Manual after you registered?

Yes (GO TO QUESTION 7) _____
No _____

5. Were you able to gain access to a manual?

Yes _____
No (GO TO QUESTION 12) _____

6. How did you gain access to a manual? (PROBE)

A friend _____
Library School Resource Center _____
Psychology Department _____
Carnegie Library _____
Other (SPECIFY) _____

7. Did you read the manual?

Yes (GO TO QUESTION 8) _____
No (GO TO QUESTION 12) _____

8. Did the manual present the material clearly?

Yes (GO TO QUESTION 10) _____
No _____

9. What do you feel was not presented clearly in the manual?

10. Did you feel that anything was left out of the manual that you wanted to know?

Yes _____
No (GO TO QUESTION 12) _____

11. What was left out?

12. Did you receive a Pocket Reminder Card? (PROBE: a small folded pocket-sized card, summarizing the main steps in using SUPARS.)
- Yes _____
 No (GO TO QUESTION 16) _____
13. Did you use it?
- Yes (GO TO QUESTION 14) _____
 No (GO TO QUESTION 16) _____
14. Did you find it helpful?
- Yes _____
 No _____
15. What would make it more helpful?
16. Have you ever had a demonstration of the SUPARS system?
- Yes (GO TO QUESTION 18) _____
 No _____
17. Were you aware that demonstrations were available?
- Yes _____
 No _____
18. Have you ever called extension 4220 for help with questions or problems about SUPARS?
- Yes _____
 No (GO TO QUESTION 21) _____
19. How often have you called extension 4220 for help?
20. Has the person answering been able to help you?
- Yes _____
 No _____
21. Do you intend to use SUPARS again this week?
- Yes _____
 No _____
 Don't know _____
22. Would you sign up for SUPARS if it became available again?
- Yes _____
 No _____
 Don't know _____

23. Give me two or three adjectives or other words which might best describe or characterize your experience with SUPARS.
24. Do you have any questions now about SUPARS which you would like to ask?

Thank you for your time and cooperation.

1. Name _____ 2. Date _____ 3. Social Security _____
4. Campus/Home Address _____ 5. Campus/Home Phone _____
6. Are you primarily: Faculty _____ Undergraduate student _____ Graduate Student _____
Staff _____ Administrator _____ 7. What is your academic major or department?
_____ Question does not apply _____
8. What percent of your time is engaged in: Teaching and/or learning _____
Research _____ Other _____ 9. Did you register for SUPARS last year?
YES _____ NO _____
10. If YES, on the average, how often did you use SUPARS? _____
a. more than once a day c. several times a week e. once a month
b. once a day d. several times a month f. less frequently
11. On the average, over the last 2-3 months, how frequently have you used
Psychological Abstracts? _____
12. Estimate how frequently you see yourself using Psychological Abstracts in
the next 2-3 months (assuming computer service were NOT available)?
Select ONE choice from 'a-g' above. _____
13. What recent interest areas are important to your use of Psychological
Abstracts? (Most) _____
(2nd) _____
(3rd) _____
14. Have you used Psychological Abstracts in the last 2-3 months to help you
prepare a term paper, thesis, speech, etc. _____ (If YES, please
give title or topic) _____
15. Do you need Psychological Abstracts in the next 2-3 months to help you
find references or abstracts for a term paper, thesis, speech, etc., you
are currently preparing or planning to prepare? _____ (If YES,
please give title or topic) _____
16. What is your specific need for Psychological Abstracts in the near future?
To find a specific reference or abstract? ___ To keep up to date in one or
two content areas? ___ To survey the literature in general? ___ To exhaustively
review a specific topic or area? ___ To find several current references
in an area (but not necessarily exhaustively review that area?) ___
Other (Specify) _____
17. What previous experience do you have with computer terminals? A lot? ___
Some? ___ None ___ If you have had experience please identify type
of terminal, when you used it, where used? _____
18. What previous experience do you have with computer-based retrieval systems
A lot? ___ Some? ___ None? ___ : If you have had experience please identify
the system, and where and when you used it _____

Figure No. 1 SUPARS Registration Form

APPENDIX VI

INTRODUCTION TO SEMANTIC DIFFERENTIAL QUESTIONNAIRE

APPENDIX VI

INTRODUCTION TO SEMANTIC DIFFERENTIAL QUESTIONNAIRE

Hi,

SUPARS is interested in your reactions. Please fill in the enclosed form today and return it in the enclosed envelope to me via campus mail. Thank you.

Pat Moell
SUPARS

Have you registered to use SUPARS this year? YES _____ NO _____

Did you register to use SUPARS last year? YES _____ NO _____

Have you read the SUPARS User's Manual '71
edition? YES _____ NO _____

IF YES : How many different days did you use SUPARS? (Approximate answers
are sufficient) _____

How many SUPARS searches did you make? (NOTE: A SUPARS search
begins every time you type in a Δ .)

(Approximate answers are sufficient.) _____

IF YOU ARE FILLING OUT THIS QUESTIONNAIRE IN CLASS, DURING A REGULAR
CLASS PERIOD, PLEASE GIVE THE COURSE TITLE AND NUMBER IN THE SPACES
PROVIDED BELOW.

COURSE TITLE: _____

COURSE NUMBER: _____

