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OVERALL ASAP PROGRESS

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City of Phoenix Management and Budget Department
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16. Abstract

This report documents changes in DWI countermeasure activities during the Phoenix ASAP's post-operational period. Operational and post-operational performance levels and profiles are compared to determine impact on the DWI control system resulting from the discontinuation of the ASAP. Results of an evaluation of DWI rehabilitation activities are presented relating treatment effectiveness to traffic safety (recidivism) and nontraffic safety (problem drinking) criteria. Program-level data in the form of Appendix "H" tables 3D, 3H, and 8B are also included.

DWI control system functioning has changed relatively little as a direct result of the termination of the Phoenix ASAP. The DWI arrest rate has been maintained at roughly the same level since the special ten-man ASAP motorcycle squad was disbanded. The vast majority of offenders continue to be exposed to drinker diagnosis, referral and treatment countermeasures. Over 90% enter rehabilitation via a PACT plea agreement.

Results of the recidivism and STR analyses are not encouraging with respect to the apparent capacity of short-term treatment programs to affect the behavior of DWI clients referred by the courts. While a few positive effects were detected, the overall evaluation would have to be considered negative. Evaluation of new approaches currently being tried out in Phoenix is expected to continue beyond the May, 1979 federal contract expiration date.

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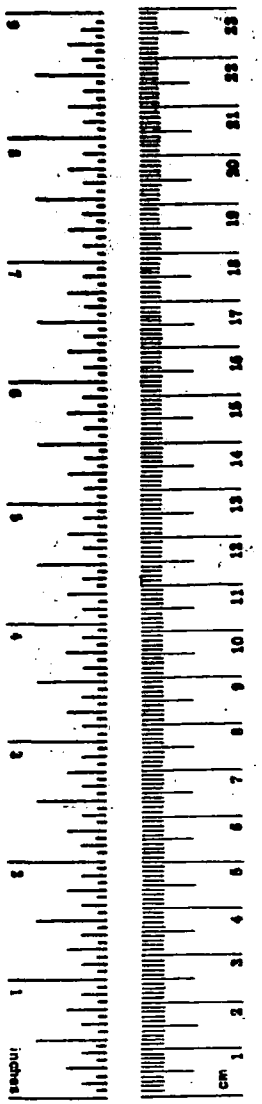
METRIC CONVERSION FACTORS

Approximate Conversions to Metric Measures

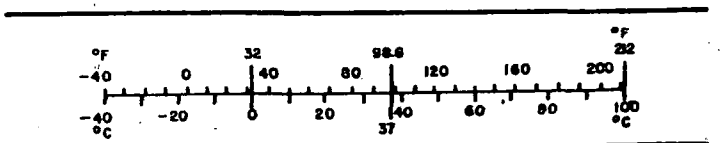
Symbol	When You Know	Multiply by	To Find	Symbol
LENGTH				
in	inches	*2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
AREA				
in^2	square inches	6.5	square centimeters	cm^2
ft^2	square feet	0.09	square meters	m^2
yd^2	square yards	0.8	square meters	m^2
mi^2	square miles	2.6	square kilometers	km^2
	acres	0.4	hectares	ha
MASS (weight)				
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (2000 lb)	0.9	tonnes	t
VOLUME				
tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	l
pt	pints	0.47	liters	l
qt	quarts	0.95	liters	l
gal	gallons	3.8	liters	l
ft^3	cubic feet	0.03	cubic meters	m^3
yd^3	cubic yards	0.76	cubic meters	m^3
TEMPERATURE (exact)				
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

*1 in = 2.54 (exactly). For other exact conversions and more detailed tables, see NBS Misc. Publ. 286, Units of Weights and Measures, Price $2.25, SD Catalog No. C13.10:286.



Approximate Conversions from Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
LENGTH				
mm	millimeters	0.04	inches	in
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
m	meters	1.1	yards	yd
km	kilometers	0.6	miles	mi
AREA				
cm^2	square centimeters	0.16	square inches	in^2
m^2	square meters	1.2	square yards	yd^2
km^2	square kilometers	0.4	square miles	mi^2
ha	hectares (10,000 m^2)	2.5	acres	
MASS (weight)				
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	tonnes (1000 kg)	1.1	short tons	
VOLUME				
ml	milliliters	0.03	fluid ounces	fl oz
l	liters	2.1	pints	pt
l	liters	1.06	quarts	qt
l	liters	0.26	gallons	gal
m^3	cubic meters	35	cubic feet	ft^3
m^3	cubic meters	1.3	cubic yards	yd^3
TEMPERATURE (exact)				
°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F



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The present report documents changes in DWI countermeasure activities during the Phoenix ASAP's post-operational period. Operational and post-operational performance levels and profiles are compared to determine impact on the DWI control system resulting from the discontinuation of the ASAP. Results of an evaluation of DWI rehabilitation activities are presented relating treatment effectiveness to traffic safety (recidivism) and nontraffic safety (problem drinking) criteria. Program-level data in the form of Appendix "H" tables 3D, 3H, and 8B are also included.

DWI control system functioning has changed relatively little as a direct result of the termination of the Phoenix ASAP. In the enforcement area, the DWI arrest rate has been maintained at roughly the same level since the special ten-man ASAP motorcycle squad was disbanded. There was an initial decrement in performance in 1977 (arrests down 11%) but indications are that the arrest rate for 1978 will reach or exceed operational years' totals. This increase is attributed to a heightened enforcement effort beginning in the second quarter of 1978, no doubt a result of prior ASAP-induced experience. The profile of DWI offenders has changed somewhat, with increases in the percentage of females and younger drivers arrested during 1977.

Adjudication of DWI cases in Phoenix has remained basically unchanged since the project ended. PACT continues to channel the vast majority of offenders into short-term treatment programs as the principal condition of a uniform plea bargaining policy. However, the addition of a major eligibility requirement in 1976--that DWI defendants are permitted only one opportunity to receive a PACT plea bargain agreement--could gradually lead to the dissolution of the program's effectiveness. As documented in this report, the rate of DWI conviction is currently on the increase. As the proportion of DWI offenders who are ineligible for PACT increases, the danger exists that the adjudicatory system may once again suffer the effect of a high trial backlog and inefficient court processing.

Inspection of key rehabilitation performance measure data indicates that system processing has changed little during the post-operational

(Continue on additional pages)

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ASAP period. The bulk of the arrested population continues to be exposed to drinker diagnosis, referral and treatment countermeasures. The percentage of problem drinker outcomes has risen somewhat in recent years, but little change has occurred in the problem drinker profile. The profile comparison of DWI recidivists and nonrecidivists produced results which were consistent with expectations; profile differences reported last year at the end of ASAP's operational period remained unchanged.

Results of the recidivism and STR analyses are not encouraging with respect to the apparent capacity of short-term treatment programs to affect the behavior of DWI clients referred by the courts. The analysis of DWI arrest recidivism found in Section 5 provides the most direct measurement of behavioral change. Large-scale random assignment of offenders to treatment, in combination with a sophisticated data collection system for monitoring rearrest experience, makes this a relatively strong analysis.

While a few positive effects were detected, the overall evaluation would have to be considered negative. For the original DWI School program, the no-treatment control group had a significantly lower survival rate than the other formats. Differences in survival among the three treatment groups were not statistically significant. These results give a fairly clear indication that some form of intervention produced higher survival than no treatment at all. However, it appears that a one-session group or educational literature reduced recidivism at least as much, if not more, than four sessions of the DWI School. For the Alcohol Awareness programs, begun in mid-1974 and early 1975, results were no more positive. Although these programs demonstrated marginally higher survival than the four-session DWI School, none of the three treatment modalities was able to demonstrate higher survival than its corresponding Home Study Course group.

In the STR study, a total of 15 analyses were carried out to assess treatment effectiveness for a sample of 351 offenders classified as problem drinkers. Results of analyses treating four direct drinking outcome measures produced some positive results. Treatment and comparison group profiles were marginally significant for the typical quantity measure, with Therapy Workshops showing a consistent improvement across time when compared to PMT and Home Study. All three groups reported increasing numbers of days abstinent and there was also improvement shown for the three category drinking behavior measure. It should be noted that despite the lack of interaction, the two treatment groups showed relatively more improvement than the Home Study control.

Analysis of 11 scales defining a broad spectrum of behavioral and personality domains related to problem drinking also revealed marked improvement. However, there was no indication that treatment had more of an effect in improving problem drinkers' life situations than minimal exposure. None of the interaction tests achieved statistical significance, a result contrary to what would be expected if treatment were differentially affecting subsequent behavior.

The findings and conclusions offered in last year's Final Report with respect to rehabilitation effectiveness provided the impetus for program change. DWI Prevention and Therapy Workshops were phased out in June, 1978; SAGE and CAP were also discontinued. The social drinker program was modified and brought in-house. The new Educational Series consists of two 2-1/2 hour sessions held over a one week period, plus three to five hours of individual study. A new contract program was designed for persons screened as mid-range problem drinkers involving more therapeutic contact. The new Countermeasure Program consists of ten 2-1/2 hour sessions held over a five week period.

A long-range program for DWI probationers is also being planned. In the past, R-P Center programs have been designed to accommodate the short-term PACT defendant; however, a sizeable number of probationers have been assigned to them. The new program will recognize the year or more that the Municipal Court now has probation jurisdiction over these individuals. Persons screened as high-range problem drinkers continue to be interviewed by SAR and referred into community-based treatment. During 1977-78, SAR significantly expanded referral/treatment services for problem drinkers and alcoholics in the DWI criminal justice system.

The federal evaluation of the DWI control system in Phoenix is due to expire in May, 1979. During the course of the next six months, decisions on the part of City administrators and, ultimately, the City Council must be made regarding on-going evaluation efforts. Plans are already underway to simplify the collection of rehabilitation data using a new coding form and to make data collection costs the responsibility of the City. The computer program which generates Table 15 will also be modified to capture recidivism data for the new programs. Random assignment of 15% of the mid-range problem drinker pool to the 1975 Home Study comparison modality will permit determination of the cost effectiveness of the new DWI Countermeasure Program. Of course, evaluation will only become possible when enough time has elapsed to make meaningful comparisons between treatment and comparison groups. It is anticipated that some preliminary data will be available for inclusion in next year's Annual Report.

The system for evaluating DWI countermeasures remains intact; it is perhaps the single most significant ASAP legacy. Every effort should be made to preserve its integrity. The most appropriate course of action toward this end would be to merge relevant information from the present ASAP computerized data base with DWI disposition data from the City's court file. This would result in an accurate and efficient on-line system capable of meeting everyone's information needs, while at the same time providing for continued DWI program evaluation.

1. INTRODUCTION

1.1 OBJECTIVES

This Annual Report documents countermeasure activities during the two year post-operational ASAP period. Included is: an administrative evaluation of major countermeasures (enforcement, judicial and rehabilitation); supplemental analyses for selected evaluative topics (fatal accident profile, STR study and recidivism); and Appendix "H" data tables 3D (total fatal crashes), 3H (total injury crashes) and 8B (enforcement patrol activity). The purpose of this evaluation is to determine impact during the two year post-operational period resulting from the continuation or discontinuance of ASAP demonstration type countermeasures.

1.2 BACKGROUND

The Phoenix ASAP became a reality when a contract between the U. S. Department of Transportation (National Highway Traffic Safety Administration) and the City of Phoenix was signed in 1971. Phoenix thus became one of 35 ASAPs located throughout the United States and Puerto Rico. The project was officially launched on January 5, 1972, following a six month start-up period. Objectives set for the overall program were:

(1) To achieve significant reduction in alcohol related crashes resulting in fatalities, injuries and property damage.

(2) To generate public support and stimulate state and community programs.

The six year, $5.1 million project (including $3.2 million in federal funds) initially had no matching requirements, although city and community agencies increasingly devoted resources to it. Funding was a blend of city and federal monies plus revenues generated from rehabilitation fees charged to participants. While no formal formula match was required, estimated local costs to operate certain countermeasures, some of which were originally federally funded, were incorporated into the total project budget. Those portions of the program deemed most successful were recommended for continuation beyond the first 3 1/2 year period by a Citizens Alcohol Safety Advisory Committee. Phoenix was later selected for a two year extension of federal funding, bringing the operational phase to an end on December 31, 1976. A scaled down data gathering and reporting effort is continuing through May 31, 1979, made possible by a combination of operational period underruns and $50,000 in additional federal funds.

1.3 COMMUNITY DESCRIPTION

Boundaries for the Phoenix ASAP were the corporate city limits, covering a 277.9 square mile area at the end of 1977. The Phoenix Police Department had enforcement responsibilities for 2,679 miles of roadway (including 440 miles of major arterial streets and 242 miles of collector streets). The Arizona

Department of Public Safety patrol the 23 miles of interstate freeway (I-10 and I-17) located inside the city limits.

Phoenix is located at an elevation of 1,117 feet in a large valley with mountains rising to the north and south. It is typified by dry and warm climatic conditions. The city is fringed by smaller communities, several of which have contiguous boundaries. In many instances, residents of these communities commute into Phoenix for employment. In addition, the annual influx of winter visitors adds to traffic volume. A dearth of freeways and steadily increasing numbers of vehicles using existing streets have combined to tax traffic handling capabilities. Mass transit is restricted to a bus system operating only during daylight hours and in limited areas of the city. Approximately 683,000 persons resided in Phoenix during 1977, a 10.9 % increase from the project's baseline year (1971). Vehicle registrations climbed 18 % from 1971-1976, while licensed drivers increased by 6 %. DWI arrests jumped 75 % during this same period.

Sales of alcoholic beverages in Arizona have risen each year since 1969. Wine has shown the strongest jump, followed by beer and liquor sales. Alcohol consumption outpaced population growth by 20 % during the 1969-1976 period.

Roadside surveys were not conducted in Phoenix since Police Department policy precluded such activities. Instead, drinking habits have been gauged through a series of household surveys, presented annually to a representative sample of residents. By projecting the 1975 survey results to the Phoenix population of 16 years of age or older (458,000) the extent of drinking and driving behavior can be estimated. In the City, 330,000 driving age persons (72 %) said they imbibe alcoholic beverages. When these drinkers were asked how often they drove after having had something to drink, 17,000 (5 %) replied "often" and 50,000 (15 %) said they did so "occasionally." Of these drinking drivers, 22,000 (43 %) indicated they would consume more than four drinks and continue to drive.

The Arizona Revised Statutes specify a 0.10 percent blood alcohol concentration as constituting presumptive evidence that a driver is under the influence of intoxicating liquor. Arizona law provides a mandatory imprisonment of one day for first conviction of DWI. A mandatory imprisonment of 60 days (and up to six months) is specified for a subsequent DWI conviction within a 24 month period. Also, conviction of DWI while a driver's license is suspended, revoked or refused carries a penalty of "imprisonment in the county jail for a period not to exceed one year or by fine not exceeding $1,000 or both."

The legal drinking age in Arizona was lowered from 21 to 19 effective August 13, 1972. Public drunkenness was abolished as a crime on January 1, 1974. Besides decriminalizing public intoxication, a number of measures were provided for evaluation and treatment of persons impaired by alcoholism. Local Alcoholism Reception Centers (LARCS) were established as initial receiving agencies for persons severely intoxicated or incapacitated by alcohol. There the individual was detoxified, evaluated and referred for further diagnosis and treatment to whichever facility was deemed appropriate for his recovery.

2. ADMINISTRATIVE EVALUATION OF MAJOR COUNTERMEASURES

2.1 ENFORCEMENT COUNTERMEASURES

a. Overview. During 1977, the Phoenix Police Department continued to enforce the DWI law in much the same way as during the previous five years, when the ASAP was operational. The arrest rate dropped somewhat, but showed signs of increasing again in 1978. The profile of persons arrested for DWI was basically unchanged: nine out of ten DWI offenders were male, 32-33 years of age on the average, and with a racial composition similar to that found in the population as a whole.

b. Patrol Description. As in early years, two components of the Phoenix Police Department accounted for the vast majority of DWI citations in 1977: the Patrol Bureau, utilizing approximately 630 field officers and 150 supervisory personnel; and the Traffic Bureau, comprising six motorcycle squads of ten officers each. In addition, some 40 Arizona Department of Public Safety (DPS) Officers patrolled the portions of interstate freeway located within the corporate city limits.[1]

During the project's operational period (1972-1976), one of the motorcycle squads was designated as ASAP and emphasized DWI detection and apprehension. This squad was federally funded only through early 1974, but the City agreed to continue this special patrol as a condition for receiving additional federal support for other DWI countermeasure activities. In 1977, however, the ASAP squad was disbanded. Of course, all patrol officers continued to make arrests for drunken driving as part of their regular duties.

Beginning in April, 1978, two squads were instructed to emphasize DWI detection on Thursday, Friday, and Saturday nights. The reason for this stepped-up enforcement effort was that the percentage of A/R fatal accidents had continued a small but steady increase during 1977. As a result of this special patrol effort, a total of 8,029 DWI arrests were made during the first three quarters of 1978, a 15.9% increase over the prior year's activity during the same time period.

c. Arrest and Booking Procedures. As in earlier years, DWI suspects were usually identified by their abberant driving behavior, faulty vehicular equipment or involvement in an accident. Arrest and booking procedures remained basically unchanged. The suspect was stopped immediately after being detected, with due respect for safety. If the officer felt that the driver was under the influence of alcohol, he administered a series of agility tests to further check the suspect's condition (finger-to-nose, walking heel-to-toe, etc.). Video and audio tape recordings were not utilized.

[1] Since DPS citations were filed in Justice of the Peace Courts and did not enter the Municipal Court system, they were excluded from the ASAP computerized data base.

If reasonable grounds existed, the suspect was placed under arrest and read his constitutional rights (The Miranda Warning). A separate citation was issued for each violation and an Alcohol Influence Report was initiated. Citations were not issued for violations occurring on private property. The officer usually took the suspect into custody and delivered him to the nearest District Station or to the Main Station, whichever was more convenient. Occasionally, another car or patrol wagon was dispatched to pick up and deliver the suspect. If the officer was on a motorcycle, such assistance was always requested.

The arresting officer observed the suspect continuously for at least 15 minutes before a blood alcohol concentration (BAC) test was administered, to ensure that nothing was ingested which could affect the results. A driver whose BAC registered below .05 was not charged with DWI-Alcohol (although a DWI-Drug citation could be written if drugs were suspected). A driver with a BAC between .05 and .10 and whose visual examination strongly indicated intoxication could be charged, after the facts of the case were thoroughly reviewed with a supervisor. A driver with a BAC of .10 or more was always cited. If the suspect refused to submit to a BAC test, the usual result was six-month driver's license suspension following a hearing at the Driver's License Section.

While these actions were underway, a background records check was initiated by the officer through the Records and Information Section, Phoenix Police Department; the Criminal Identification Section, Arizona State Department of Public Safety; and the Driver's License Section, Motor Vehicle Division, Arizona State Department of Transportation. A violator cited for DWI was released on his written promise to appear provided that a number of conditions were met. Others were booked into Maricopa County Jail.

d. DWI Arrest Summary. Table 2.1 presents monthly arrest data for each year from 1972 to 1977. The arrest rate declined slightly in 1977 compared to the previous year (down 11% from 11,729 to 10,493). It appears likely that the level of DWI enforcement in Phoenix is primarily a function of the priority placed on this activity by the Police Department and has little to do with the actual frequency with which the offense is committed. The plausible explanation for the decrement in arrests during 1977, therefore, is that less enforcement effort was expended, since it is unlikely that fewer drunken drivers were on the road. As previously mentioned, the arrest rate returned to pre-1977 levels during the first three quarters of 1978 as a result of an increase in the DWI enforcement effort.

e. DWI Offender Profile. A profile of persons arrested for DWI was constructed in order to describe the makeup of the offender population and to indicate how it may have changed over time. A relatively complete set of personal and situational variables were collected, including sex, age and origin of violator; number of prior and subsequent DWI violations; BAC reading and type of test; and month, year, day of week and time of day of arrest. Records with missing values were excluded; each table indicates the number of complete records upon which percentages were based. Statistical testing was not carried out since no hypothesis was made regarding change over time, or interrelationships among variables.

One cautionary note regarding interpretation of these profiles should be mentioned. These data refer to the population of drivers apprehended and charged with the DWI offense and may not readily generalize to the population of all DWI drivers. Nevertheless, information on arrestees provides the best possible approximation of who was driving under the influence, when they were doing so, and the circumstances under which the behavior manifested itself.

DWI arrests were fairly evenly distributed throughout all months of the year. As shown in Table 2.2, approximately nine out of every ten DWI offenders were male. The proportion of males dropped slightly in 1977, continuing a trend noticeable during the 1972-1976 period. The change in the percentage of males arrested may accurately reflect the true state of affairs, or may simply indicate that police officers were becoming more sensitive to DWI behavior in women and were thus more likely to issue a citation when confronted by a female suspect.

The mean age of DWI offenders continued to drop, from 34.2 to 32.4 in 1977. Overall, 34.4% of the persons arrested in 1977 were between 21-29 years of age and one-half (50.9%) were under 30. Just 11.5% were 50 years of age or older. These data reveal a trend over time toward increased DWI arrests among younger drivers, with a corresponding decrease in the arrest rate for those in the middle age categories. It would be tempting to attribute this change to an increase in youthful drinking-driving behavior brought about as a consequence of lowering the legal drinking age from 21 to 19 in August, 1972. An equally plausible hypothesis, however, is that police have simply become more sensitive to the drinking-driving behavior of young people because of publicity surrounding the statutory change, although this would not fully account for the increase observed in later years. Another possibility may be that police are emphasizing DWI enforcement for this age group because of the increasing involvement of younger drivers in A/R fatal accidents. Without roadside survey data, however, all that can be said with certainty is that younger motorists in Phoenix accounted for more of the total arrests than would be expected based on their incidence in the driving population.

Also shown in Table 2.2 is distribution of DWI offenders by origin. Minority groups were somewhat overrepresented compared with their incidence in the population as a whole. In 1977, the proportion of Mexican-Americans increased to 21.3%, while Blacks and Native-American groups maintained the same percentages shown in prior years.

Table 2.3 reveals that 69.2% of those arrested during 1977 had no previous DWI citations on the computer file. Just 11.8% had two or more prior arrests. The proportion of first offenders decreased over time, as improvements to the arrest data system were made. Also shown in this table is number of subsequent arrests recorded on the computer file. In 1977, most persons (92.9%) had no subsequent arrests. The proportion of recidivists declined over the years, of course, due to the shorter exposure time during which rearrest might occur.

Time of arrest for DWI offenders is reported in Table 2.4. As in earlier years, most citations were written between the hours of 8:00 p.m. and 4:00 a.m. Less than 10% of the arrests in 1977 were made during the daytime hours of 4:00 a.m. to 4:00 p.m. Since DWI offenders apprehended during early

morning hours were most probably driving as a result of the previous night's activity, the distribution of arrests by day of week in Table 2.4 is presented in two ways: first, based on the regular midnight-to-midnight cycle; second, based on an adjusted starting time of 4:00 a.m. to more accurately reflect actual DWI behavior. Based on the 4:00 a.m. starting time, Friday (20.0%) and Saturday (21.0%) accounted for two-fifths of the total 1977 arrests. Other days' proportions were very similar, ranging from 10.5% on Monday to 13.3% on Sunday. Some variation is apparent for earlier years, but no trend is discernible.

As shown in Table 2.5, the average BAC was .175 in 1977. Over one-third (37.7%) of those tested received readings between .15 and .19, with large numbers in the .20-.24 (24.8%) and .10-.14 (23.6%) categories. Readings below the legal limit of .10 were obtained in 4.5% of the tests, while 9.3% were tested at .25 or higher. BAC testing was refused by 10.0% of the DWI offenders in 1977. This refusal rate is very similar to that experienced in earlier years.

2.2 JUDICIAL COUNTERMEASURES

a. Legal Environment. The legal milieu surrounding the DWI control system in Phoenix is typical of other jurisdictions. Since 1935, Arizona has had a statute proscribing the driving of a motor vehicle while "under the influence" of intoxicants. The DWI law was amended in 1939 to include evidentiary presumption of guilt if the driver had a blood alcohol concentration (BAC) of .15 or higher. No substantial change was made to this law until 1969, when an "implied consent" statute was enacted requiring a breath test to be administered (unless circumstances preclude its use). Refusal to submit to a test results in a mandatory six month driver's license suspension.

Another drinking-driving control pertains to the authority of the Motor Vehicle Division to restrict or withdraw the driving privilege of persons convicted of DWI. If the conviction is for a second or subsequent DWI within 24 months, the Division must revoke the driving privilege and relicensing is not permitted for one year. The Division also exerts control through its general driver improvement program for habitual traffic law violators identified through an administrative system of penalty points.

Several significant revisions to the DWI statute were passed in 1972. First, the law was changed to conform with nationally recommended standards prescribing the weight of alcohol in the blood which constituted presumptive evidence that the defendant was driving under the influence of intoxicating liquor (reduced from 0.15 to 0.10). Second, mandatory imprisonment of one day for first conviction was added to the DWI statute, and provision was made for up to six months incarceration and, at the discretion of the court, a fine of not less than $100 nor more than $300, or both. For a subsequent DWI conviction within a 24 month period, the state provided a mandatory imprisonment of 60 days and up to six months' jail time at the discretion of the court. Finally, a DWI conviction while a driver's license was suspended, revoked, or refused, carried a more severe sanction: imprisonment for one to five years, a fine not exceeding $5,000, or both. (This felony DWI provision was modified in August, 1975; the offense was reduced to a high misdemeanor with a maximum fine of $1,000 instead of $5,000.)

A signficant change in Arizona Rules of Criminal Procedure concerning the defendant's right to a fair and speedy trial became effective in 1973. The current version of this speedy trial rule requires DWI defendants to be tried within 120 days of arraignment.

In 1974, the Arizona legislature authorized a procedure which made it possible for the Superior Court to accept a record of the proceedings from a lower court trial, if the record were sufficient and in proper condition, and decided only the issues of law. Prior to this statutory change, the outcome of a Municipal Court trial could be appealed, resulting in a new trial having to be scheduled at the Superior Court level. This new procedure eliminated the practice of trying a case de novo.

The probationary period for repeat DWI offenders was extended from six months to two years effective in August, 1977. In October, 1978, a new criminal code was enacted which further extended the term of DWI probation to a maximum three year period.

b. Judicial System Components. Adjudication of DWI cases in Phoenix involves several interrelated criminal justice components. Within the authority conferred by the City Charter, the Municipal Court had jurisdiction to hear cases involving state misdemeanors (including DWI). A small number of DWI citations (mostly from DPS) were also filed in Justice of the Peace Courts.[2]

A review of the Court's organizational structure and scheduling processes, made in 1974, resulted in the central docket being supplanted by a modified division system. Once a case was arraigned in one of 12 divisions, all other court functions were set by the judge according to the calendar of that division. A case, therefore, remained in the same courtroom at each stage of adjudication, allowing the judge to exercise more judicial discretion.

The Municipal Court was headed by a Chief Presiding Judge who served a one year term subject to reappointment by the City Council. Divisional judges were appointed to four year terms. Several other judges served in a part-time relief capacity. In 1975, a judicial selection advisory board was formed. This board, composed of several representatives of the legal community and three lay members, made recommendations regarding judicial appointments and reappointments to the Mayor and Council. Open hearings were also held before formal appointments were made.

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[2]DPS dissatisfaction with Municipal Court operations surfaced during 1975, particularly with regard to procedures used to schedule officers for trial testimony. Among other issues, many officers objected to the PACT program. This resulted in almost all DPS citations being filed in Justice of the Peace Courts, even though they had been written within city limits.

A Court Administrator and his staff were responsible for case processing support services (scheduling, dockets, file assembly, etc.). A bailiff was assigned to each court division; a clerk was assigned for arraignments and PDC (upon request). An automated records and information system was operated for the Court Administrator by the City's Management Information Systems (MIS) Department.

The Rehabilitation-Probation (R-P) Center, organized in 1975, consolidated and coordinated certain functions provided by the Municipal Court and ASAP. The R-P Center consisted of three major units: PACT orientation, DWI rehabilitation, and probation.

The vast majority of DWI offenders entered the rehabilitation system after arrest and arraignment through the Prosecution Alternative to Court Trial (PACT) program. PACT was developed in 1974 to provide an incentive for persons to enter and satisfactorily complete a short-term reeducation or rehabilitation program by offering to reduce the original DWI citation to a lesser charge. Specifically, the program was designed to induce more persons to participate in rehabilitation activities instead of pleading not guilty and generally clogging the judicial system at both Municipal and Superior Court levels. In many such cases, defendants ultimately avoided rehabilitation entirely. Proponents of PACT argued that it was not a question of avoiding punitive sanctions, but rather, a question of whether plea bargaining policy could be used to implement a rehabilitative alternative which the offender would consider less undesirable than the mandatory jail penalty.

Prosecution of DWI cases in Muncipal Court and Superior Court (for appeals) was handled by the City Prosecutor's office, a division of the Law Department. High misdemeanors (DWI while license suspended, revoked or refused) were prosecuted by the office of the Maricopa County Attorney in Superior Court.

When ASAP began, defense services in Municipal Court were provided solely by the private bar. In response to a U. S. Supreme Court decision[9] requiring appointed counsel for indigents in cases where incarceration was the outcome of conviction, the City contracted in 1972 with the Maricopa County Public Defender Office to establish a Department of Legal Services. In 1977, a pilot program was inaugurated using some private attorneys under contract to the City in two of the 12 Municipal Court divisions. This number was subsequently increased to six so that approximately half of the indigent caseload was handled by private counsel and half by the Maricopa County Public Defender Office.

In order to qualify for public assistance, the defendant had to be accepted by the Court as indigent. The basic criterion for this determination was that undue hardship would be encountered by the defendant if he were forced to hire legal counsel for his defense. This was determined through a financial statement completed by the defendant. Shortly after the inception of PACT, the Municipal Court decided that representation by a Public Defender would not be available for participants in the program, since they were not subject to a

[9] Argersinger v. Hamlin, 1973.

jail term. Indigents not eligible for, or refusing the PACT offer, were still provided free counsel. Participants who dropped out of the program also became eligible for a public defender if they were not allowed to conclude their case via the PACT agreement.

c. Description of Case Flow. The judicial system depicted in Figure 2.1 was the one in place at the end of the project's operational period (1976). Major changes were made in the criminal justice system during prior years; previously published evaluation reports contain a description of the original system and its modification over time. The system remained basically unchanged in 1977.

Procedures for detection, apprehension, testing and release or detention of DWI offenders remained basically unchanged during 1977 (see Section 2.1). After arrest, the defendant was arraigned on the DWI charge. The purpose of the arraignment proceeding was to apprise the offender of the charge(s), advise him of his rights, (including the right to counsel) and accept his plea. Most defendants were released by the police on their own recognizance or on bail, and appeared in Court for continuous arraignment at the time of their choosing between four and ten days following arrest. Defendants booked into jail were arraigned within 24 hours in a courtroom located at the jail. Defendants represented by an attorney usually arranged for a not guilty plea to be entered through a mail-in arraignment procedure. In the unlikely event that a guilty plea was entered, the defendant had to appear in person at Municipal Court.

Judges encouraged defendants to plead not guilty as a means of entry into the PACT program. In the rare instance where a guilty plea was entered, up to six months' probation could be ordered by the judge, and the probationer could be referred to ASAP rehabilitation. Those pleading not guilty were set to appear at a PACT court session (PCS). This appearance was scheduled 14 to 21 days following arraignment, with PACT orientation immediately preceding the court appearance. Attendance on the date and time scheduled was mandatory for the defendant, his counsel (if any) and the prosecutor. Failure of the defendant or his counsel to appear resulted in forfeiture of bond and/or issuance of a warrant for the defendant's arrest.

Determination of the plea bargain offer was a routine task, usually made on the basis of the defendant's arrest BAC reading. The PACT attorney selected traffic charges with driver's license penalty points appropriate to the BAC plea bargain schedule. If suitable companion citations had not been written at the time of arrest, amended charges were filed by the Prosecutor's Office at the PCS. Most proposed plea bargains involved violations with a demerit value of two to five points. The usual sanction was a $110 fine with no jail time. The prior DWI record of the offender was not considered in this determination, but persons previously accepting a PACT agreement were not permitted to participate a second time. These defendants were subject to traditional court procedures. For those determined to be eligible, a PACT agreement form was completed by the PACT attorney and forwarded to the orientation office.

After the screening test had been scored and the appropriate rehabilitation assignment indicated on the basis of social or problem drinker classification, the defendant (and his attorney, if present) was called for an individual

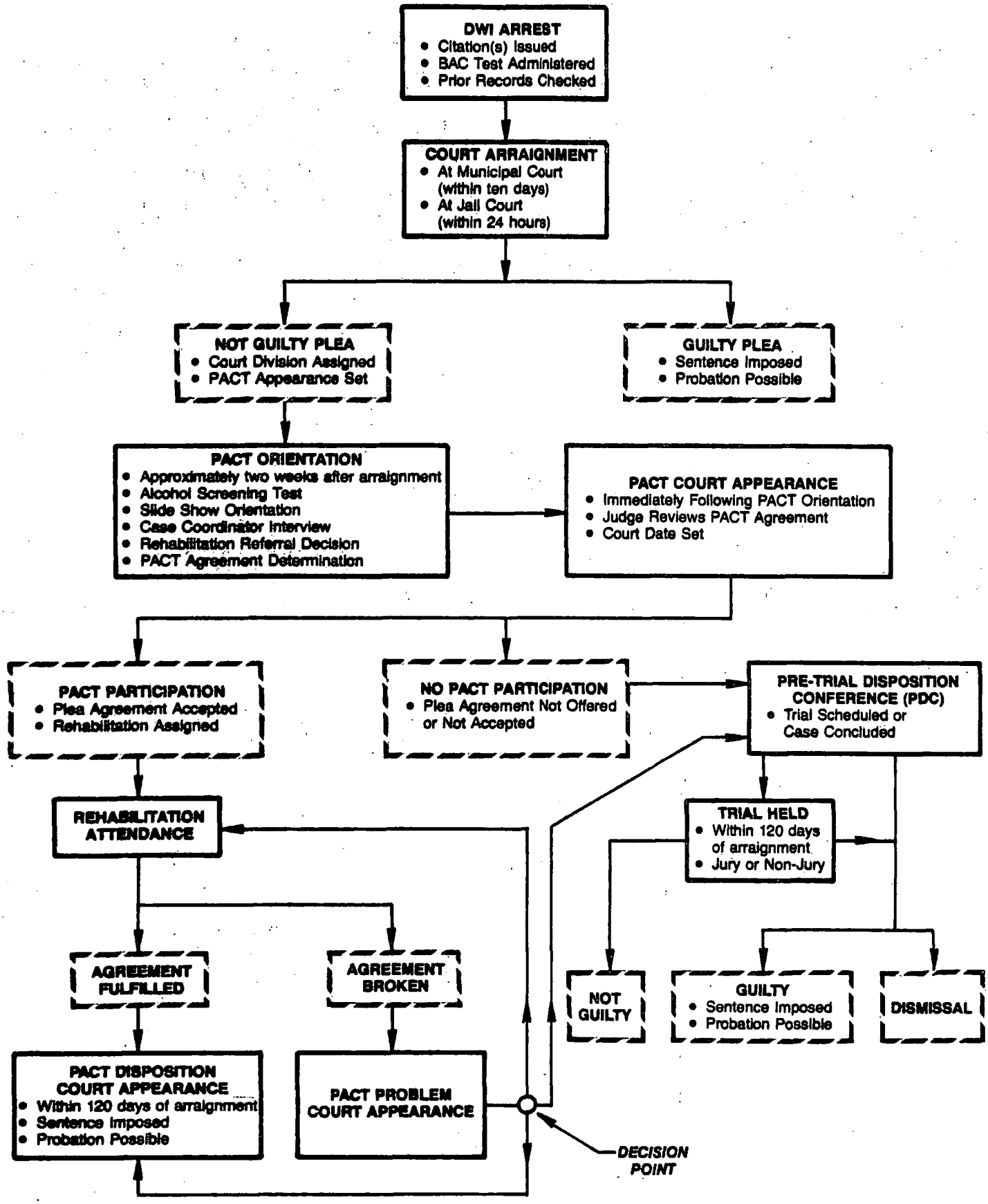

FIGURE 2.1

PHOENIX ASAP CASE FLOW

meeting with a PACT case coordinator. Working from the file which had been forwarded from the PACT attorney's office, the case coordinator outlined the full implications of entering the program. The defendant was made aware that if he wished to participate, he would be expected to adhere to the terms of the PACT agreement.

Whether the defendant accepted or rejected the PACT offer, he next appeared before the judge for his PCS in the assigned court division.[4] If the offender had signed a PACT agreement, the judge consented to its terms and set a disposition date within 60 days. (This time frame permitted the setting of a trial date, within the constraints imposed by the Arizona Supreme Court, for those persons who failed to comply with the rehabilitation requirement or who otherwise violated their PACT agreement.) If PACT was refused or not offered, the case could be set for jury or nonjury trial (according to the defendant's preference). In other cases, a change of plea to guilty was entered by the defendant. When the prosecutor found the case against the defendant to be weak, particularly if special circumstances existed, a non-PACT plea bargain was offered (e.g., in the case of nonresidents).

Persons entering PACT were scheduled for a court appearance about 60 days following their PCS, when case disposition usually occurred. The judge was given a report from R-P Center personnel regarding fee payment and attendance, plus an overall evaluation regarding satisfactory completion of the assigned program. At this time, the judge formally accepted the agreed upon plea and imposed sentence (if PACT requirements were satisfactorily met) or granted a continuance (if PACT requirements were not fulfilled). Occasionally, the sentencing date was postponed if more time was required for the defendant to pay either his traffic fine or program services fee. If further time for treatment was requested by the participant or rehabilitation personnel and approved by the judge, sentencing could be postponed for up to 60 days.

Defendants entered DWI probation by direct court referral after being convicted of DWI. Persons referred in this manner were of two types: those who refused or were ineligible for the PACT program, and those who entered PACT and later dropped out. Probationers were generally assigned to one of the same R-P Center rehabilitation modalities utilitized for PACT participants. If, at the end of the probationary period all conditions had been adequately met by the probationer, no further court action was taken. If any conditions were violated, however, probation revocation proceedings could be initiated. As a result, probation could be terminated or its terms modified. In addition to fine and jail, the probationer could be ordered to reenter rehabilitation.

d. DWI Disposition Outcomes. Table 2.6 presents yearly case dispositions by year of DWI violation and Muncipal Court disposition. This table serves as a summary for several tables which follow. Of the 59,536 arrests between 1972

[4] A special PACT court division for DWI adjudication (PCS and case disposition) was created in August, 1978. PACT court was located in the same building that housed the R-P Center and ASAP offices.

and 1977, 78.8% possessed a valid disposition date and code on the ASAP master file. The 4,493 dispositions for 1972 refer only to citations written during that year; earlier years' arrests are not included. Similarly, the 2,012 dispositions for 1978 refer only to citations written during the 1972-77 period; they exclude arrests made during 1978. Cases concluded after July, 1978, are also not counted in the tabulation.

Table 2.7 presents data pertaining to DWI disposition outcomes in Muncipal Court. Unfortunately, trial activity and other modes of adjudication are not clearly differentiated in these data. The "guilty" category includes cases pleading guilty at arraignment, cases changing the plea to guilty after arraignment but prior to trial, and cases found guilty at trial. The "not guilty" category includes cases found not guilty as a result of trial. The "dismissed" category includes cases where the DWI charge was dropped. This information refers solely to the DWI charge; disposition outcomes for companion (accompanying) charges, such as reckless driving or speeding are not considered.

These data illustrate the dramatic shift in disposition activity which occurred over the years. The DWI conviction rate fell from 70.8% in 1972 to 12.6% in 1975, with a corresponding rise in case dismissals. Guilty dispositions increased somewhat after 1975, but remained low. It should be kept in mind, of course, that the definition of a "satisfactory outcome" with regard to DWI adjudication in Phoenix changed over time. Prior to the implementation of PACT in 1974, only guilty dispositions qualified as a satisfactory outcome. With the advent of PACT, however, success of the outcome hinged not on the disposition finding, but on referral to (and completion of) an Alcohol Awareness Program. Actually, the worst performance was achieved in 1973, when sharply increased plea bargaining lowered the conviction rate to 41.5%. Although a referral to rehabilitation accompanied some of these pre-PACT plea bargains, there was no judicial mechanism to ensure compliance with attendance requirements.

The next two tables show the DWI conviction rate for various subgroups of the population. Since the "not guilty by trial" category averaged just under 1%, almost all of the remaining dispositions were dismissals. The dismissal rate, therefore, can be approximated by subtracting the guilty rate from 99%. Table 2.8 reveals that while the conviction rate dropped over time for all groups, differences remained similar with regard to sex, age and origin. Women had a slightly lower conviction rate than men. Age groups showed no large differences, except that persons under 21 were somewhat less likely to receive a conviction. Caucasions had fewer guilty dispositions, while Indians had a greater number than Mexican-Americans or Blacks. In general, the sex, age and origin groups with the greater conviction rates were also those with higher arrest BAC readings (not shown in the table). This may have resulted in more successful prosecutions, since BAC reading was a major factor in the determination of guilt.

Table 2.9 reveals a difference over time for BAC test type. In the year prior to the implementation of the PACT program (1973), defendants who refused BAC testing had a much lower conviction rate than those with Breathalyzer or GCI readings (23.6% vs 45.6%). In later years, the conviction rate was higher for persons refusing the test. This table also shows a relationship for all years

between BAC reading and conviction rate. As readings became higher, convictions increased in a like manner. In 1973, for example, guilty dispositions were received by just 13.8% of those with readings below the presumptive limit, while two-thirds of those above .25 BAC received guilty dispositions. After 1974, while all groups experienced reduced conviction rates because of PACT, fewer guilty dispositions were still received by defendants with lower BAC readings.

2.3 REHABILITATION COUNTERMEASURES

a. Drinker Diagnosis and Referral. Figure 2.2 illustrates the drinker diagnosis and referral system which was operational during 1977. The intent of this flowchart is to show how the majority of persons entering the system were handled; exceptions and minor variations in the diagnosis and referral process are not considered. Major changes were made in the areas of diagnosis, referral and rehabilitation during prior years; previously published evaluation reports contain a description of the original system and its modification over time. The present report is limited to a consideration of changes occurring during the 1977-78 post-operational period.

As shown in Figure 2.2, all persons entering the ASAP diagnosis and referral system were first classified into one of two broad categories along a social/problem drinking continuum. Drinker classification was determined through the administration of a diagnostic screening test in combination with a pre-sentence investigation (PSI) consisting of a search of prior DWI arrest and conviction records.

The weighting procedures and cutoff scores employed in the screening process were generally congruent with guidelines promulgated by the National Highway Traffic Safety Administration. Persons scoring below 85 on the screening test were classified as social drinkers. Problem drinkers were subdivided into "mid-range" and "high-range" categories on the basis of an arbitrary screening score cutoff. Persons scoring between 85-164 were put into the mid-range category, while those scoring 165+ were classified as high-range problem drinkers.[5] Social drinkers were referred to DWI Prevention Workshops. Mid-range problem drinkers were routed to either Substance Abuse Group Education (SAGE) or DWI Therapy Workshops. High-range problem drinkers received a Comprehensive Alcohol Program (CAP) referral.

Clients who were evidencing heavy involvement with alcohol could undergo a second stage diagnosis and referral process. This second stage assessment varied in origin, structure and sequence (point of occurrence in the system) depending upon the circumstances of a given case. Clients with immediate or individual needs related to substance abuse or mental health were given a Special Assessment Referral (SAR) immediately after first stage screening (see Figure 2.2); they thus bypassed the assignment to an Alcohol Awareness Program and were referred directly to whatever community treatment agency was deemed appropriate on the basis of the SAR session. SAR utilized a number of

[5]These cutoff scores varied somewhat during the year as a function of caseload, group availability, and scheduling problems.

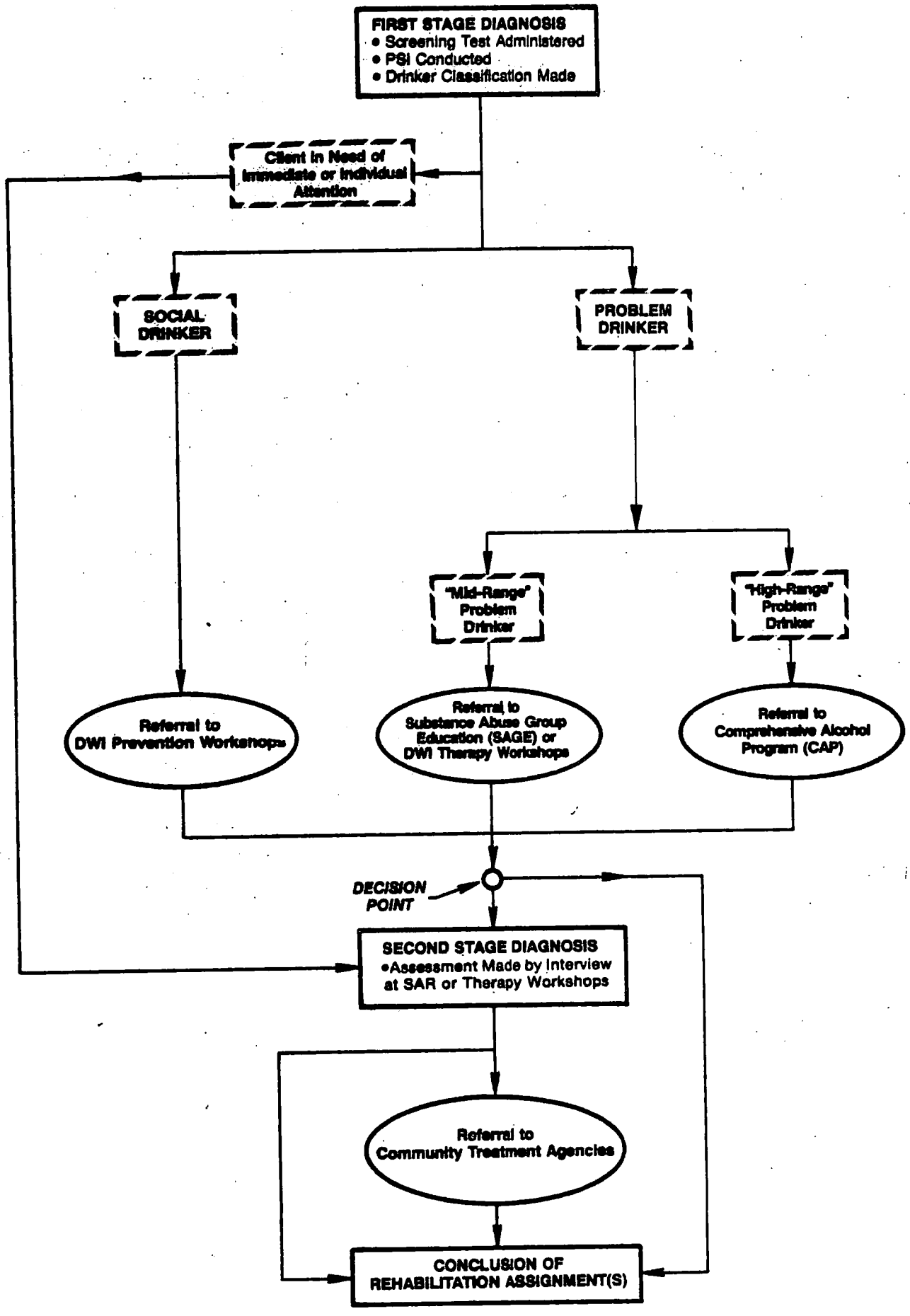

FIGURE 2.2

PHOENIX ASAP DRINKER DIAGNOSIS AND REFERRAL

state-funded and private agencies in making client referrals. Included in this network of services was individual and group counseling in the areas of substance abuse, mental health, vocation, finance, and family and marriage.

Clients with logistical and other problems which precluded attendance at rehabilitation activities were also interviewed by SAR personnel after PACT orientation. Such persons were usually referred to SAGE, although in some cases they were required to participate in more intensive community therapy programs. Clients were also sent to SAR directly from PACT orientation if they were already actively enrolled in a community treatment program to determine if the program in question could be used to fulfill the terms of the PACT agreement. Factors effecting the decision in such cases were (1) the current program had to be directly related to problematic drinking, and (2) the defendant had to be willing to provide confirmation of treatment from the agency.

Clients who had already taken advantage of PACT as a result of a previous DWI could be seen by SAR via a referral from DWI probation upon conviction of the new offense. The person's screening test results and past treatment history were taken into account in formulating treatment referrals. Clients who were unable to fulfill the terms of their PACT agreement (either because they failed to attend specified rehabilitation activities, failed to appear for their PACT case disposition, or were unable to pay their traffic fine or program services fee) could be seen by SAR as the result of action taken by the Chief Presiding Judge at a weekly PACT problem court session.

In addition to making referrals, it was the responsibility of SAR personnel to monitor clients' attendance and progress at whatever community treatment agency was specified. It should be implicit from the foregoing discussion that SAR was one of the most flexible components in the diagnosis and referral system, dealing with a diverse client population having special problems and/or treatment needs. During 1977-78, SAR significantly expanded its referral network and treatment services for high-range problem drinkers and alcoholics in the DWI criminal justice system.

Other persons received further assessment/referral following completion of an Alcohol Awareness Program. For most, this process occurred as a part of the DWI Therapy Workshop exit interview, although referrals occasionally were made (via SAR) from other sources. Exit interview appointments were made in session six for the following week. During the interview, the client and group leader evaluated the participant's drinking pattern and problem areas and explored the feasibility of further treatment. Every effort was made to refer the client to an outside agency offering services appropriate to his needs and financial means. If a referral was made, an appointment coordinator contacted the agency by phone to set up the initial appointment and notified the client by mail. The client, in consultation with agency personnel, was responsible for the course of his treatment.

b. <u>R-P Center Treatment Modalities</u>. <u>DWI Prevention Workshops</u> were designed for persons screened as social drinkers. The program consisted of four 2-1/2 hour sessions meeting twice weekly during day or evening hours. Saturday sessions meeting for four weeks during daytime hours were also offered. Meetings were held in Spanish for those requesting them.

Workshop sessions used a group process to disseminate information concerning alcohol and its effect on driving, health and interpersonal relationships. Groups were limited to 15 participants plus a counselor/facilitator. Group leaders either possessed or were working toward advanced degrees in counseling or related fields and/or had a substantial background in the alcoholism field. In addition, they underwent 32 hours of inservice training to familiarize themselves with the contents and objectives of the program and to gain experience in group facilitation techniques. Weekly staffings were also held.

Specific objectives for the first session were to encourage group members to express feelings and vent hostilities concerning the circumstances surrounding their arrest for DWI. ASAP's Almanac of Alcohol Facts for the Driver Who Drinks was handed out. In session two, basic information about alcohol was discussed, emphasizing the effects of alcohol on bodily processing and physical health. Some common misunderstandings about alcohol in relation to driving and health were also covered. Two brochures, The Way to Go and Drinking Myths, were handed out along with a drink/drive indicator used in calculating blood alcohol concentration. Information about alcohol's psychological and social effects was provided in session three with emphasis on recognizing when drinking becomes a problem. In session four, group members searched for appropriate alternatives to DWI behavior and were encouraged to make personal commitments for behavioral change. Information about alcohol-related services available in Phoenix was distributed.

DWI Therapy Workshops were designed for persons screened as problem drinkers. This countermeasure began in February, 1975, replacing St. Luke's Hospital's Blackboard Lecture Series. The program consisted of six 2-1/2 hour sessions plus a seventh meeting for an exit interview. Sessions were held over a three week span during day or evening hours.

Therapy Workshops utilized a group setting of from 12 to 14 persons and a group leader. The curriculum was similar to that used for Prevention Workshops, except that problem identification was emphasized to a much greater extent than information dissemination. Therapy Workshops also placed greater emphasis on group interaction and confrontation. This process culminated in a one hour exit interview where the group leader evaluated the individual's therapeutic needs and an attempt was made to motivate him to seek further treatment.

DWI Prevention and Therapy Workshops were staffed and operated by Diversified Counseling Services, Inc.,[6] a nonprofit organization under contract to the City. The contract was funded through client fees.

Substance Abuse Group Education (SAGE) was designed for persons screened as problem drinkers. This countermeasure began in March, 1977, replacing the PMT modality which was discontinued in December, 1976. The program consisted of one three-hour group session followed by a second one-on-one meeting between the therapist and client. Home Study Course materials were used in the intervening time between the first and second meetings.

[6]This agency has since gone out of existence.

The initial session utilized a lecture, film and group discussion to raise clients' awareness about the effects of excessive drinking. Participants were given the Home Study Course materials and instructed to read and complete the written assignments. Clients returned within a month's time for the final interview. During this meeting, the Home Study assignments were reviewed and an evaluation of the client's therapeutic needs was made. If the individual was in need of further help he/she was referred to a community agency.

The Comprehensive Alcohol Program (CAP) was designed for DWI recidivists. The primary program consisted of a series of five group meetings designed to increase the repeat offender's knowledge and awareness of alcohol. Meetings lasted approximately two hours and were held on a weekly basis. Program therapists utilized a varity of techniques to impart information concerning the effect of excessive drinking on physical/emotional health and interpersonal relationships. Included were: group discussions; lectures on the physiological and psychological aspects of alcoholism; a film entitled Chalk Talk; a presentation of the Jellinek and Johnson Feelings Chart; and an orientation on the constructive use of available community resources.

Clients in need of more support and longer term treatment were referred into the community. In particular, clients were strongly encouraged to become involved in Alcoholics Anonymous as a means of achieving sobriety. Other resources were also used. Community referrals were made directly by one of the program's therapists, who was also responsible for following clients' attendance and progress. Referrals to CAP were usually made via PACT, probation or SAR.

Although not a treatment modality per se, DWI Probation provided extended contact with convicted offenders. While a DWI conviction was the usual means of entry, defendants could be placed on DWI probation for other reasons (e. g., as the result of a plea bargain to a lesser charge). In some cases, DWI probation was made part of the PACT agreement (e. g., when an intervening arrest occurred before disposition of the original DWI charge).

Probation activities usually ran concurrently with participation in other rehabilitation programs. Probationers were assigned to rehabilitation on the basis of screening test results unless they had previously been referred through the R-P Center, in which case assignment was based on test results and past treatment history (e. g., a person who had completed Therapy Workshops as the result of a prior DWI would most likely be referred to CAP). Other probation activities included participation in more intensive treatment such as in-residence halfway houses. Community referrals were made either directly or through SAR. All new probationers, regardless of the referral source or subsequent treatment assignment, routinely completed the alcohol screening test, the DWI probation intake form and were interviewed by a probation officer. Probationers were also required as part of their assignment to complete a monthly report form.

A unique feature of the DWI probation program was an attempt to match probationers on a one-to-one basis with a volunteer partner from the community.

The basic goal of the volunteer partner was to establish a helping relationship with the probationer, functioning as a friend and as an information/referral source. Volunteers were recruited by newspaper, radio and television announcements, speaking engagements and personal recommendations. Each volunteer was screened by the program coordinator and participated in six hours of training. Quarterly inservice training sessions were also scheduled. The probation partner component was less frequently used during 1977.

Substantial changes to the network of primary care treatment services for DWI offenders were made in June, 1978. DWI Prevention and Therapy Workshops were phased out, largely as the result of reaction to the evaluation of rehabilitation activities contained in last year's Final Report. The SAGE and CAP programs were also discontinued at this time.

The social drinker program was modified and brought in-house. The new Educational Series consists of two 2-1/2 hour sessions held over a one week period, plus three to five hours of individual study. Group sessions emphasize basic information about alcohol including the effect of abusive drinking in creating life problems. The concept of responsible drinking is stressed in relation to better decision making alternatives.

A new Countermeasure Program was designed for persons screened as mid-range problem drinkers. This countermeasure is staffed and operated by ARCA West and the Phoenix South Community Mental Health Center under contract to the City. The program consists of ten 2-1/2 hour sessions held over a five week period. Participants are given basic information about the physical and psychological effects of alcohol, and practice in identifying problems, making better decisions, setting more realistic goals and communicating more effectively. Persons screened as high-range problem drinkers continue to be interviewed by SAR personnel and referred into the community.

c. Rehabilitation Performance Measures. Table 2.10 displays rehabilitation intake activity by year and mode of system entry. The number of referrals varied considerably over the years, from a low of 2,935 in 1972 to a high of 7,800 in 1975. As this table shows, referrals prior to 1974 were the result of unsupervised probation or sentence continuance (following a plea bargain or DWI conviction). During the latter part of 1974, increasing numbers of DWI offenders entered rehabilitation via PACT. Of the clients who entered the system in 1975, 97.8% did so via PACT. Data for 1976-77 reflect the same high PACT entry rate, although increasing numbers in PACT ineligibles are entering the system via probation. This trend is expected to continue in 1978. Table 2.10 also shows the dramatic effect that PACT had in exposing substantially greater numbers of people to ASAP drinker diagnosis and rehabilitation countermeasures. The 21,429 system entries recorded between 1975 and 1977 represent an increase of 106% over the prior years' average.

Another way of demonstrating PACT's impact on system entry is shown in Table 2.11, which compares yearly arrests with the number exposed to drinker diagnosis. This table does not take into account multiple DWI arrests for which there was only one exposure to diagnosis (i. e., those cases in which two or more citations had combined dispositions), so the percent exposed for each year is slightly underestimated. The table shows that almost three quarters of the arrests in 1975 and two-thirds of the arrests in 1976 and 1977 resulted

in a diagnostic decision being made, compared to under half in 1972 and 1974 and under one-third in 1973. The effect of PACT, therefore, was to approximately double the rate at which DWI offenders were exposed to drinker diagnosis and rehabilitation.

Table 2.12 summarizes drinker diagnosis activity by year of rehabilitation entry. Some variation is shown in the proportion of problem drinker outcomes, ranging from 25.4% in 1973 to 34.6% in 1977. Including 1978 data (not shown) the percentage of problem drinker outcomes has risen from 31.3% during the project's operational period to 36.0%. Unfortunately, interpretation of these data is complicated by a number of factors. First, 1,042 persons who were screened during the first half of 1972 were excluded because of faulty data collection. Perhaps more confounding is the fact that procedures for problem drinker diagnosis changed considerably after the project began. From January, 1972 through June, 1974, a comprehensive battery of tests known as Data Collection I (DCI) was administered. DCI underwent several revisions during the years in which it was used, most formidably in March, 1973 when the two original tests were combined into a single 2-1/2 hour test battery. From July, 1974 on, a revised, abbreviated screening test known as the Personal Data Form was administered. While this test remained essentially unchanged in terms of content and scoring, several adjustments to the cutoff for problem drinker classification were made during the 1975-1977 period. Most importantly, validity studies of problem drinker screening procedures are not available. It is uncertain, therefore, whether the shift toward increased problem drinker outcomes in later years is a function of any real change in the population of DWI offenders.

Table 2.13 presents 1974-1977 attendance data for major rehabilitation modalities. Attendance at Prevention Workshops exceeded 90% in every year, with as many as 95.3% obtaining a satisfactory evaluation in 1977. Therapy Workshops had a slightly lower rate of satisfactory completion, no doubt due to the greater number of sessions scheduled and the type of drinker involved. Attendance at PMT in 1975 and 1976 was similar to that shown for Prevention Workshops. These figures are somewhat misleading, however, in that they do not include persons failing to show up or dropping out who were later rescheduled into another modality. Attendance at Home Study (in 1975) and SAGE (in 1977) was slightly better than any of the other modalities, with over 95% receiving a satisfactory evaluation. This finding was expected given the less stringent requirements for completion of these modalities. DRI and SAR attendance data reflect attrition occuring between the initial assessment interview and the final evaluation of the individual's participation in a community based treatment program. Satisfactory evaluations were obtained in only one-half to three-quarters of these cases, indicating a great degree of reluctance on the part of high-range problem drinkers to accept and follow through on prescribed treatment referrals.

d. Drinker Profile. Tables 2.14 to 2.16 compare problem and social drinker profiles for the ASAP's operational and post-operational periods. The primary question concerns differences across time between problem and social drinker groups. Individuals were counted only once with information taken from the most recent arrest. This was done to avoid any bias which may have resulted from including the same person more than once in a single comparison. A total of seven demographic and situational variables were inspected.

The distribution of sex, age and origin is shown in Table 2.14. Inspection of this table reveals that for both time periods, males comprised over 90% of the problem drinker group. Males were also slightly more likely to be classified as problem drinkers, a difference of 7.0% between drinker groups in 1977-78. The age distribution for problem and social drinkers shows the largest proportions of people in the 21-29 and 30-39 categories. About twice as many social drinkers, however, were under 21. Proportional differences remained about the same across time even though greater numbers of persons under 30 were arrested in 1977-78. This resulted in a decrease in the mean age for both drinker groups. Differences of origin between problem and social drinkers during 1972-1976 became somewhat more pronounced in 1977-78, with Mexican-Americans and Indians being more likely to be classified as problem drinkers.

Table 2.15 shows the distribution of BAC test acceptances and refusals and grouped BAC readings by drinker classification. This table reveals that the refusal rate was slightly higher for problem drinkers. There was virtually no difference in percentages of test acceptances and refusals between groups across time. Likewise, it appears that the distribution of BAC readings between groups across time was relatively unaffected. For both time periods, problem drinkers registered a mean BAC that was .027 in excess of social drinker readings. The BAC distribution has shifted slightly toward the lower end recently, but proportional differences among problem and social drinker groups have remained unchanged.

Table 2.16 shows the distribution of prior DWI arrests and prior treatment entries for problem and social drinkers. As expected, there were great discrepancies on both variables, with four to five times as many problem drinkers having prior arrests/treatment entries during 1972-1976. This difference has become more exaggerated in the post-operational period as more DWI repeaters are arrested in Phoenix. Since the decision to classify a person as a problem drinker is partly based on prior history, it is not surprising that percentage differences between drinker groups are becoming more disparate.

e. Recidivist Profile. Tables 2.17 to 2.19 compare recidivists and nonrecidivists on nine demographic and situational variables. These tables differentiate the recidivist profile between operational and post-operational periods. Individuals were only counted once, with recidivist information taken from the most recent arrest record.

Table 2.17 presents data pertaining to sex, age and origin. As shown in this table, the recidivist profile was characterized by a greater proportion of males than the distribution of nonrecidivists for both time periods. In addition, there was a direct relationship between prior arrests and the offender's sex, with the proportion of males increasing as a function of increasing numbers of priors. Age was also related to recidivism, with proportionately more persons between the ages of 30 and 59 found in the recidivist distribution. This relationship was somewhat more pronounced for persons with two or more prior arrests. Proportionately more Mexican-Americans and Blacks were found in the recidivist distribution, while Caucasians were somewhat underrepresented. During the operational period, this tendency was strongest for persons with two or more priors. The origin distribution was more similar across categories of prior arrests during 1977-78. The proportion of Indians was roughly the same for recidivist and nonrecidivist groups during both time periods.

Shown in Table 2.18 are data pertaining to BAC test acceptances and refusals, arrest BAC reading and mode of DWI disposition. All of these variables appear strongly related to recidivism. The refusal rate for BAC testing was higher among the recidivist group; persons with two or more priors also had the highest refusal rate. The BAC distribution showed more recidivists with BACs in excess of .19 and there was a direct relationship between high BAC readings and prior DWI history. The precentage of PACT dispositions declined sharply for recidivists, from 47.7% during the operational period to 29.3% in 1977-78; the percentage of cases concluded via PACT was lowest for persons with two or more prior arrests. This relationship was most evident during the post-operational period when persons with a prior PACT entry were automatically ineligible for a second PACT plea bargain. The percentage of cases concluded at trial dropped for both groups during 1977-78.

Presented in Table 2.19 is the distribution of prior treatment entries and evaluation of DRB/DRI/SAR and School/Workshop participation. As shown in this table, the majority of recidivists had at least one prior treatment entry. (The nonrecidivist group, by definition, lacked prior treatement entries.) Evaluation of DRB/DRI/SAR and School/Workshop activities did not differentiate recidivist and nonrecidivist groups; percentage differences were small enough to be unimportant for samples of this size.

In sum, the profile comparison of DWI recidivists and nonrecidivists produced results which were consistent with expectations regarding characteristics of these two groups. In comparison to first time offenders, recidivists were more likely to be male, between the ages of 30 and 59 and to have refused BAC testing. In addition, recidivists were more likely to be Mexican-American or Black. They more often had BACs in excess of .19, and were less likely to have had their cases concluded via PACT. In general, profile differences between recidivist and nonrecidivist groups which were reported last year at the end of ASAP's operational period either remained the same (with minor fluctuations) or grew more exaggerated (as a function of changes in system processing).

TABLE 2.1

PHOENIX DWI ARRESTS
BY TYPE OF AGENCY
1972-1978, BY MONTH AND YEAR

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1972													
ASAP	18	215	122	223	139	133	107	137	276	190	226	187	1,973
Other	679	715	688	665	645	524	631	723	829	848	765	930	8,769
Total	697	930	810	888	784	657	738	860	1,105	1,038	991	1,117	10,742
1973													
ASAP	131	122	151	121	109	92	113	142	118	151	89	153	1,492
Other	865	792	750	723	534	506	511	506	558	497	555	676	7,473
Total	996	914	901	844	643	598	624	648	676	648	644	829	8,965
1974													
ASAP	100	151	167	207	279	158	165	204	179	228	212	186	2,236
Other	465	492	539	478	465	463	404	449	498	553	611	642	6,059
Total	565	643	706	685	744	621	569	653	677	781	823	828	8,295
1975													
ASAP	250	207	206	302	264	179	185	201	190	187	155	150	2,476
Other	613	697	845	800	718	621	668	693	684	780	818	837	8,774
Total	863	904	1,051	1,102	982	800	853	894	874	967	973	987	11,250
1976													
ASAP	131	157	163	191	185	69	184	177	195	105	105	121	1,783
Other	851	835	926	801	785	661	736	706	848	970	850	977	9,946
Total	982	992	1,089	992	970	730	920	883	1,043	1,075	955	1,098	11,729
1972-76													
ASAP	126	170	162	209	195	126	151	172	192	172	157	159	1,992
Other	695	706	750	693	629	555	590	615	683	730	720	812	8,204
Total	821	876	912	902	824	681	741	787	875	902	877	972	10,196
1977	946	824	934	902	844	744	789	782	885	975	897	971	10,493
1978	853	928	968	1,011	1,046	900	959	978	1,026	?	?	?	8,669

TABLE 2.2

SEX, AGE, AND ORIGIN OF DWI OFFENDERS
1972-1976 VS. 1977
(IN PERCENT)

Sex	1972-76	1977
(Number)	50,444	9,237
Male	89.4	88.4
Female	10.6	11.6
Age		
(Number)	50,444	9,237
Under 21	13.0	16.5
21 - 29	31.0	34.4
30 - 39	23.8	22.6
40 - 49	18.2	15.1
50 - 59	10.3	8.2
60 +	3.7	3.3
MEAN	34.2	32.4
Origin		
(Number)	46,158	9,181
Caucasian	72.5	68.5
Mexican-American	17.4	21.3
Black	6.1	5.7
Native-American	4.1	4.6

TABLE 2.3

PRIOR AND SUBSEQUENT DWI ARRESTS
1972-1976 VS. 1977
(IN PERCENT)

	1972-76	1976	1977
(Number)	50,444	10,873	9,237
Prior			
0	78.3	69.3	69.2
1	15.1	19.2	19.0
2	4.4	7.1	7.3
3+	2.2	4.4	4.5
Subsequent			
0	74.0	90.6	92.9
1	17.4	8.2	6.3
2	5.6	1.0	0.8
3+	3.0	0.2	0.0

TABLE 2.4

TIME AND DAY OF DWI ARREST
1972-1976 VS. 1977 (IN PERCENT)

Time	1972-76	1977
(Number)	46,293	9,172
Mid. - 4 am	43.5	42.6
4 am - 8 am	3.2	3.5
8 am - Noon	1.8	1.8
Noon - 4 pm	3.6	4.1
4 pm - 8 pm	12.7	14.9
8 pm - Mid.	35.2	33.0
Midnight		
(Number)	50,444	9,237
Sunday	15.5	16.9
Monday	9.0	11.1
Tuesday	10.3	11.2
Wednesday	12.8	11.0
Thursday	13.7	11.6
Friday	17.1	15.8
Saturday	21.6	22.4
4 a.m.		
(Number)	46,293	9,172
Sunday	10.7	13.3
Monday	8.6	10.5
Tuesday	12.4	11.6
Wednesday	13.1	11.2
Thursday	13.7	12.3
Friday	21.0	20.0
Saturday	20.5	21.0

Note: Day is first defined as beginning at midnight, and then with an adjusted starting time of 4 a.m. to better reflect prior night DWI behavior.

TABLE 2.5

BAC READINGS OF DWI OFFENDERS
1972-1976 VS. 1977
(IN PERCENT)

BAC Reading	1972-76	1977
(Number)	41,695	8,273
00 - 09	4.7	4.5
10 - 14	21.8	23.6
15 - 19	34.6	37.7
20 - 24	26.6	24.8
25 +	12.4	9.3
MEAN	.180	.175

TABLE 2.6

DWI DISPOSITIONS IN MUNICIPAL COURT
BY YEAR OF VIOLATION AND DISPOSITION

Disposition Year	Violation Year						
	1972	1973	1974	1975	1976	1977	Total
1972	4,493	--	--	--	--	--	4,493
1973	4,022	5,003	--	--	--	--	9,525
1974	254	1,758	4,254	--	--	--	6,266
1975	56	93	2,310	6,232	--	--	8,691
1976	12	33	45	2,041	5,145	--	7,276
1977	219	127	34	141	2,984	5,167	8,672
1978	0	1	10	40	71	1,890	2,012
Total	9,056	7,515	6,653	8,454	8,200	7,057	46,935
Arrests	10,370	9,289	8,854	10,913	10,873	9,237	59,536
Dispo Rate	87.3	80.9	75.1	77.5	75.4	76.4	78.8

TABLE 2.7

DWI DISPOSITION OUTCOMES
BY YEAR OF DISPOSITION, 1972-1978
(IN PERCENT)

	1972	1973	1974	1975	1976	1977	1978	Total
(Number)	4,341	9,339	6,255	8,684	7,251	8,661	2,012	46,543
Guilty	70.8	41.5	47.4	12.6	21.8	23.4	21.5	32.3
Not Guilty	1.7	1.1	0.8	0.8	0.9	0.7	0.8	0.9
Dismissed	27.6	57.4	51.8	86.6	77.3	75.9	77.7	66.7

TABLE 2.8

GUILTY DWI DISPOSITIONS
BY SEX, AGE AND ORIGIN
1972-1978, BY YEAR
(IN PERCENT)

	1972	1973	1974	1975	1976	1977	1978
Sex							
Male	71.2	41.6	47.9	13.0	22.8	24.7	22.7
Female	66.8	40.3	43.3	9.6	14.2	13.1	12.2
Age							
Under 21	73.2	37.4	40.0	13.3	18.4	18.2	13.0
21 - 29	73.1	40.2	47.0	12.3	22.3	24.6	23.6
30 - 39	69.2	41.9	48.5	13.4	22.5	23.5	21.7
40 - 49	70.1	42.7	52.3	12.0	23.6	25.8	26.4
50 - 59	69.9	45.0	45.7	12.3	21.0	24.0	21.6
60 +	66.9	42.3	45.3	11.7	21.0	19.7	24.2
MEAN (Yrs.)	35.7	35.8	35.9	34.2	34.5	33.7	33.3
Origin							
Caucasian	66.0	40.6	42.0	10.5	19.6	20.9	19.6
Mexican-American	79.4	51.9	57.1	15.4	25.5	28.2	23.8
Black	76.8	47.6	57.7	18.2	31.9	34.2	27.7
Indian	95.0	49.4	68.1	26.3	30.5	29.0	29.2

TABLE 2.9

GUILTY DWI DISPOSITIONS
BY TEST TYPE AND BAC READING
1972-1978, BY YEAR
(IN PERCENT)

	1972	1973	1974	1975	1976	1977	1978
Test Type							
Tested	71.0	45.6	46.4	11.4	21.0	22.6	20.1
Refused	66.2	23.6	45.3	19.4	30.1	31.2	35.6
BAC Reading							
00 - 09	48.4	13.8	6.8	5.6	8.1	12.9	5.9
10 - 14	51.5	23.6	19.2	7.3	15.3	17.2	13.8
15 - 19	68.3	46.7	42.2	10.1	19.6	20.7	18.8
20 - 24	82.9	62.1	66.7	13.6	24.6	27.4	24.7
25 +	88.7	67.9	71.2	18.8	33.7	35.0	36.4
MEAN BAC	.193	.196	.207	.201	.194	.191	.191

TABLE 2.10

MODE OF SYSTEM ENTRY
BY YEAR OF REHABILITATION INTAKE
1972-1977 (IN PERCENT)

	1972	1973	1974	1975	1976	1977
(Number)	2,935	3,600	3,862	7,800	7,308	6,321
PACT	0.0	0.0	60.9	97.8	96.4	93.3
Unsupervised Probation/ Sentence Continuance	100.0	100.0	37.6	0.3	0.0	0.0
DWI Probation	0.0	0.0	1.5	1.9	3.6	6.7

TABLE 2.11

NUMBER AND PERCENT OF ARRESTED CASES
EXPOSED TO DRINKER DIAGNOSIS
BY YEAR OF DWI VIOLATION
1972-1977

	1972	1973	1974	1975	1976	1977	Total
Number Arrested	10,394	9,308	8,893	10,951	10,898	9,237	59,681
Number Exposed[a]	4,243	2,842	4,107	7,936	7,333	6,098	32,559
Percent Exposed	40.8	30.5	46.2	72.5	67.3	66.0	54.6

[a] Includes persons with arrests in these years who were exposed to diagnosis in the same or a succeeding year.

TABLE 2.12

DRINKER SCREENING AT REHABILITATION ENTRY
1972-1977 (IN PERCENT)

	1972	1973	1974	1975	1976	1977	Total
(Number)[a]	1,893	3,600	3,867	7,796	7,305	6,316	30,777
Social	68.0	74.6	68.1	66.9	68.0	65.4	68.0
Problem	32.0	25.4	31.9	33.1	32.0	34.6	32.0

[a]Excludes 1,146 cases with unknown drinker screening.

TABLE 2.13

REHABILITATION ATTENDANCE DATA
BY YEAR OF ENTRY AND TYPE OF PROGRAM
(IN PERCENT)

		Evaluation[a]	
	Number	Satisfactory	Unsatisfactory
1974			
Prevention Workshops	2,077	91.7	8.3
DRB	873	75.6	24.4
1975			
Prevention Workshops	4,447	94.3	5.7
Therapy Workshops	1,497	89.2	10.8
PMT	136	94.1	5.9
Home Study	1,227	95.8	4.2
DRB/DRI	1,068	56.6	43.4
1976			
Prevention Workshops	4,695	92.3	7.7
Therapy Workshops	1,665	87.6	12.4
PMT	142	93.7	6.3
DRI	1,531	68.3	31.7
1977			
Prevention Workshops	3,584	95.3	4.7
Therapy Workshops	950	91.7	8.3
SAGE	519	95.8	4.2
SAR	1,183	74.8	25.2

[a]Evaluation is based on an overall assessment of an individual's participation. No-shows, dropouts and persons terminated unsatisfactorily for other reasons are included in the "Unsatisfactory" category.

TABLE 2.14

SEX, AGE AND ORIGIN OF
PROBLEM AND SOCIAL DRINKERS
1972-1976 VS. 1977-78
(IN PERCENT)

	1972-1976			1977-1978		
	Problem	Social	Total	Problem	Social	Total
Sex						
(Number)	5,190	13,825	19,015	2,307	4,299	6,606
Male	90.3	85.2	86.6	90.7	83.7	86.1
Female	9.7	14.8	13.4	9.3	16.3	13.9
Age						
(Number)	5,190	13,825	19,015	2,307	4,299	6,606
Under 21	7.5	15.1	13.0	11.5	20.6	17.5
21-29	30.1	32.6	31.9	31.1	35.6	34.0
30-39	27.1	21.3	22.9	26.4	20.0	22.3
40-49	20.8	16.2	17.5	17.3	12.4	14.1
50-59	11.3	10.6	10.8	10.4	7.3	8.4
60+	3.2	4.2	3.9	3.3	4.0	3.8
Mean (yrs.)	35.6	33.7	34.3	34.2	31.4	32.4
Origin						
(Number)	5,114	13,617	18,731	2,291	4,274	6,565
Caucasian	72.0	76.2	75.1	66.0	74.1	71.3
Mexican-American	17.1	15.4	15.9	23.3	18.3	20.0
Black	5.1	5.8	5.6	4.0	5.2	4.8
Indian	5.8	2.6	3.5	6.7	2.3	3.9

TABLE 2.15

BAC TEST AND ARREST BAC READING
OF PROBLEM AND SOCIAL DRINKERS
1972-1976 VS. 1977-78
(IN PERCENT)

	1972-1976			1977-1978		
	Problem	Social	Total	Problem	Social	Total
BAC Test						
(Number)	5,103	13,621	18,724	2,291	4,269	6,560
Tested	89.8	93.3	92.4	90.0	93.1	92.0
Refused	10.2	6.7	7.6	10.0	6.9	8.0
BAC Reading						
(Number)	4,576	12,680	17,256	2,064	3,977	6,041
00-09	1.9	4.5	3.8	1.7	5.2	4.0
10-14	14.8	27.5	24.1	15.8	30.7	25.6
15-19	32.4	37.3	36.0	38.0	39.4	38.9
20-24	31.6	23.1	25.4	31.1	19.5	23.5
25+	19.3	7.5	10.7	13.3	5.3	8.0
Mean	.198	.171	.178	.190	.163	.173

TABLE 2.16

NUMBER OF PRIOR DWI ARRESTS
AND PRIOR TREATMENT ENTRIES
OF PROBLEM AND SOCIAL DRINKERS
1972-1976 VS. 1977-78
(IN PERCENT)

	1972-1976			1977-1978		
	Problem	Social	Total	Problem	Social	Total
(Number)	5,190	13,825	19,015	2,307	4,299	6,606
Prior DWIs						
None	67.9	93.1	86.2	60.1	93.4	81.8
1	23.6	5.8	10.7	26.2	5.4	12.6
2+	8.5	1.1	3.1	13.7	1.2	5.6
Prior Treatments						
None	84.3	97.2	93.7	76.1	96.8	89.6
1	14.8	2.7	6.0	20.5	3.1	9.2
2+	0.9	0.1	0.3	3.4	0.1	1.2

TABLE 2.17

SEX, AGE AND ORIGIN OF
RECIDIVISTS AND NONRECIDIVISTS
1972-1976 VS. 1977-78
(IN PERCENT)

	1972-1976		1977-1978	
	Recidivists	Nonrecidivists	Recidivists	Nonrecidivists
Sex				
(Number)	6,827	30,486	2,532	6,046
Male	91.7	87.3	92.7	86.4
Female	8.3	12.7	7.3	13.6
Age				
(Number)	6,827	30,486	2,532	6,046
Under 21	8.9	14.2	8.5	20.0
21-29	29.7	31.6	32.6	35.0
30-39	25.8	22.8	26.1	20.9
40-49	20.3	17.3	19.4	13.1
50-59	11.4	10.2	10.2	7.6
60+	3.9	4.0	3.3	3.4
Origin				
(Number)	6,258	28,945	2,522	6,002
Caucasian	69.4	74.6	64.4	70.8
Mexican-American	19.0	16.1	23.5	20.0
Black	7.0	5.4	7.7	4.7
Indian	4.5	4.0	4.4	4.5

TABLE 2.18

BAC TEST, ARREST BAC READING AND MODE OF DWI DISPOSITION OF RECIDIVISTS AND NONRECIDIVISTS 1972-1976 VS. 1977-78 (IN PERCENT)

	1972-1976		1977-1978	
	Recidivists	Nonrecidivists	Recidivists	Nonrecidivists
BAC Test				
(Number)	6,236	28,912	2,518	6,000
Tested	87.2	92.0	87.2	91.0
Refused	12.8	8.0	12.8	9.0
BAC Reading				
(Number)	5,434	26,495	2,201	5,470
00-09	3.2	5.6	2.8	5.4
10-14	17.0	24.4	17.4	26.8
15-19	33.6	35.2	36.3	38.5
20-24	30.8	24.2	30.3	22.1
25+	15.4	10.6	13.2	7.3
Mode of Disposition[a]				
(Number)	4,109	14,295	1,900	4,614
PACT	47.7	74.3	29.3	84.6
PDC/Before Trial	46.0	17.9	67.0	14.6
Trial	6.4	7.8	3.7	0.9

[a]Data pertaining to mode of DWI disposition were not collected prior to July, 1974.

TABLE 2.19

NUMBER OF PRIOR TREATMENTS AND EVALUATION OF REHABILITATION PARTICIPATION OF RECIDIVISTS AND NONRECIDIVISTS 1972-1976 VS. 1977-78 (IN PERCENT)

	1972-1976		1977-1978	
	Recidivists	Nonrecidivists	Recidivists	Nonrecidivists
Prior Treatments				
(Number)	6,827	30,486	2,532	6,046
None	38.7	100.0	22.1	100.0
1	55.0	0.0	66.3	0.0
2+	6.3	0.0	11.6	0.0
DRB/DRI/SAR Evaluation				
(Number)	1,021	2,607	365	577
Satisfactory	68.7	69.8	74.0	78.7
Unsatisfactory	31.3	30.2	26.0	21.3
School/Workshop Evaluation				
(Number)	2,184	15,992	483	4,002
Satisfactory	88.6	87.4	96.3	95.9
Unsatisfactory	11.4	12.6	3.7	4.1

3. PHOENIX FATAL ACCIDENT PROFILE

3.1 RATIONALE AND METHOD

In the Final Report, profile data on fatal accidents occuring during ASAP's operational period were compiled to supplement crash trend analyses. Although it is beyond the scope of this follow-up report to examine crash trends, it is possible to compare the 1977 crash profile with earlier years' experience. The primary evaluative question concerns differences across time between alcohol-related (A/R) and other fatal accidents.

A relatively complete set of situational and demographic variables was collected for fatally injured drivers, passengers and pedestrians, and for surviving drivers. Unknown variable values were excluded; however, the number of missing values was quite small. The 1972-1976 operational period was compared with 1977 data in three ways. (Statistical testing was not done because of the small sample sizes for 1977.)

(1) Two types of accidents were identified and compared. A crash was classified as "A/R" if any involved driver or pedestrian was tested with a positive (non-zero) blood alcohol concentration, or was judged by the investigating officer as "had been drinking."[7] All other accidents were defined as "Sober." The total group is the sum of A/R and Sober categories. Passengers were not considered in this determi- nation, even if definitely intoxicated, since they would rarely be considered a causative factor in a crash. Variables examined were: accident day of week, accident time of day, and number of vehicles involved.

(2) Two types of drivers were identified and compared. "A/R drivers" were defined as persons having a BAC test reading of .05 or higher. "Sober drivers" were defined as persons involved in a crash where no driver or pedestrian possessed a positive BAC reading or was judged as "had been drinking". The sober driver category thus includes only those

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[7]This method of classification, devised by the former ASAP evaluator, somewhat overstates the proportion of A/R accidents. This is true because crashes involving drivers with low BAC readings and those judged incorrectly as "had been drinking" were included in the A/R category. This deficiency is not critical, however, since the data are not being used to gauge Project impact. Never- theless, the profile comparison between A/R and other accidents is invalidated to the extent that Sober drivers are incorrectly classified as Alcohol- Related. The staff and computer time which would be required to recode these data would not improve the analysis enough to justify the expenditure of effort. Annual totals were tallied manually, however, and are included for comparative purposes in Table 3.1.

involved in non-A/R crashes. Sober drivers involved in A/R crashes were excluded, since it was felt that they might resemble A/R drivers merely because of the common accident place and time. Profiles were also constructed for the total group of drivers, which included persons not categorized as either A/R or Sober.

Data on fatally injured and surviving drivers were combined, since survival was considered to be a coincidental event owing more to extraneous factors (such as quality of emergency care) than to any substantive difference. Bicyclists were not included. Variables examined were: sex, age, origin and type of vehicle driven.

(3) Two types of fatally injured pedestrians were identified and compared. "A/R" pedestrians" were defined as persons having a positive BAC reading or an officer judgment of "had been drinking." "Sober pedestrians" included all others, except for three cases where BAC status was unknown. The total group is the sum of A/R, Sober and Unknown categories. Variables examined were: sex, age, origin, accident time and accident day of week.

3.2 RESULTS AND DISCUSSION

a. Overview. Summary data on fatal motor vehicle crashes occurring within Phoenix city limits are displayed in Table 3.1. Crashes were up 31% in 1977 compared to the average number experienced in the 1972-1976 period. The proportion of crashes that were alcohol-related, however, remained relatively unchanged. By the most liberal definition of what constitutes alcohol involvement ("Any A/R"), the proportion reached 51.4% in 1977.

Other researchers have argued that a more stringent and realistic definition would lower the A/R proportion to 25-35%.[8] In Phoenix during 1977, use of the more restrictive ".05 A/R" definition resulted in 44.1% of the crashes being classified as alcohol-related. This represents a slight increase from the 36.9% average in earlier years, probably a chance fluctuation and not a significant difference. In the same vein, the increase in A/R crashes from the 1969-71 period could have resulted from ASAP-influenced improvements in record keeping together with heightened sensitivity by accident investigators toward alcohol as a contributing factor.[9]

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[8]Richard Zylman, "Drinking-Driving and Fatal Crashes: A New Perspective," Journal of Alcohol and Drug Education, 21, No. 1 (Fall 1975), 1-10; see also Richard Zylman, "Are We Over-emphasizing the Alcohol Factor in Traffic Crashes?", Traffic Safety (March 1975), 8-36.

[9]Several investigators have documented deficiencies in traffic accident data gathering and reporting practices. See Richard Zylman and Seldon D. Bacon, "Police Records and Accidents Involving Alcohol," Quarterly Journal of Studies on Alcohol, Supplement No. 4 (1968), 178-211; see also Richard Zylman, "Drivers' Records; Are They a Valid Measure of Driver Behavior?", Accident Analysis and Prevention, 4 (1972), 333-349.

Table 3.2 presents summary data on fatalities from Phoenix motor vehicle crashes. Deaths in 1977 were 31% higher than during the prior five year period, although the level of alcohol involvement was unchanged (49.7% in 1977). As with A/R crashes, the increase in A/R fatalities following ASAP's inception may have resulted from data bias and not from any change in the incidence of drinking and driving accidents.

b. Fatal Crash Profile. Table 3.3 reports accident data in four-hour time blocks. In 1977 as in earlier years, A/R crashes were heavily concentrated during nighttime hours. Nine out of ten accidents took place between 4 p.m. and 4.a.m. Sober crashes, on the other hand, occurred most often between noon and 8 p.m., and least often during the midnight to 8 a.m. period.

Table 3.3 also contains fatal crash data by day of week. A "day" is first defined with the traditional starting time of midnight, and then with an adjusted starting time of 4 a.m. The adjustment was made on the assumption that most accidents taking place in the early morning hours result from driving related to social activities begun the previous night. Based on this adjustment, weekend days accounted for most of the A/R accidents. Sober crashes were more widely spread throughout the week. Differences between A/R and Sober crashes varied somewhat between 1977 and earlier years, but no trend is apparent.

Table 3.4 contains two sets of data pertaining to the number of vehicles involved in fatal crashes. In 1977, more than half (60.8%) of the A/R accidents involved only one vehicle. This is a slightly higher percentage than that found for Sober crashes. Excluding pedestrian crashes, the difference becomes larger: 23% of the A/R, but only 8.6% of the Sober crashes, were single vehicle incidents in 1977.

c. Fatal Driver Profile. Of the 199 drivers involved in fatal crashes during 1977, 25.6% were classified as A/R. Sober driver classifications were made for 51.3%, with the remaining 23.1% not falling into either group. These proportions were very similar in earlier years.

The sex, age and origin of drivers in fatal crashes is shown in Table 3.5. A/R drivers were more likely to be male, Mexican-American and under 50 years of age. Sober drivers were more likely to be female, Caucasian and under 20 or over 50 years of age. Also, the finding that twice as many A/R drivers were killed (compared to Sober drivers) is probably due to the fact that deceased drivers were much more likely to receive a BAC test.[10]

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[10] Police Department policy was to test fatally injured crash participants for the presence of alcohol, if a blood test could be performed within a short time following the accident. Surviving drivers were tested (by Breathalyzer or GCI equipment) only if they were suspected of DWI behavior.

Presented in Table 3.6 are the grouped age distributions for A/R, Sober and Total drivers. Although considerable variation is apparent by year for each of the three groups, it does not seem that the reduction in 1972 of the legal drinking age from 21 to 19 years old resulted in significantly greater fatal crash involvement for members of this age group. Controversy has raged over the past few years regarding the involvement of young persons in fatal crashes. Some investigators have examined crash frequencies in areas where the legal drinking age was lowered, and found evidence that A/R crash involvement increased for younger drivers.[11] Other researchers have disputed these findings.[12] More extensive analysis of the Phoenix data is not considered worthwhile, however, since the characteristically low frequencies of these crash series makes it unlikely that a change would be detected.

d. Pedestrian Fatality Profile. Table 3.7 presents sex, age and origin data for fatally injured pedestrians. As in earlier years, large differences are apparent for 1977 between the A/R and Sober groups. A/R pedestrians were more likely to be male, in the mid-age groups and Mexican-American. Sober pedestrians, on the other hand, were more likely to be female, under 20 years of age and Caucasian.

Table 3.8 presents the distribution of fatally injured pedestrians by time of day and day of week. As with drivers, A/R pedestrians were most likely to be killed during nighttime hours. Sober pedestrians were most often killed during the daytime, particularly during the 4 p.m. to 8 p.m. period. As in earlier years, most pedestrians were killed on Friday, Saturday and Sunday, but differences between A/R and Sober groups were not large.

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[11] Robert G. Ferrence and Paul C. Whitehead, "Fatal Crashes Among Michigan Youth Following Reduction of the Legal Drinking Age," Journal of Studies on Alcohol, 36, No. 1 (1975), 171-173; see also Paul C. Whitehead and others, "Collision Behavior of Young Drivers: Impact of the Change in the Age of Majority," Journal of Studies on Alcohol, 36, No. 9 (1975), 1208-1223.

[12] Richard Zylman, "Collision Behavior of Young Drivers: Comment on the Study by Whitehead, et al.," Journal of Studies on Alcohol, 37, No. 3 (1976), 393-401.

TABLE 3.1

FATAL MOTOR VEHICLE CRASHES IN PHOENIX
BY TYPE OF A/R ACCIDENT

	Total Number	Any A/R[a]		.05 A/R[b]	
		Number	Percent	Number	Percent
Average					
1969-1971	91	37	41.0	26	28.2
1972-1976	110	51	46.6	41	36.9
1977	144	74	51.4	63	44.1

[a]The "Any A/R" category includes those crashes in which a driver or pedestrian was determined to have been drinking, either by a non-zero BAC reading or officer judgment.

[b]The ".05 A/R" category includes those crashes in which a driver or pedestrian was tested with a BAC of .05 or higher.

TABLE 3.2

MOTOR VEHICLE CRASH FATALITIES IN PHOENIX
BY TYPE OF A/R ACCIDENT

	Total Number	A/R Involvement[a]	
		Number	Percent
Average			
1969-1971	99	43	43.2
1972-1976	118	57	48.5
1977	155	77	49.7

[a]A/R involvement for fatalities is defined as a death occurring as a result of a crash classified as "Any A/R."

TABLE 3.3

TIME AND DAY OF FATAL CRASHES
BY TYPE OF ACCIDENT
(IN PERCENT)

	1972-1976			1977		
	A/R	Sober	Total	A/R	Sober	Total
Number of Cases	256	294	550	74	70	144
Time of Day						
Mid. - 4 am	30.5	7.5	18.2	37.8	7.1	22.9
4 am - 8 am	5.9	8.2	7.1	8.1	10.0	9.0
8 am - Noon	5.5	14.6	10.4	0.0	20.0	9.7
Noon - 4 pm	8.2	23.1	16.2	0.0	20.0	9.7
4 pm - 8 pm	20.3	33.7	27.5	21.6	28.6	25.0
8 pm - Mid.	29.7	12.9	20.7	32.4	14.3	23.6
Day of Week (Midnight Start)						
Monday	11.3	15.0	13.3	13.5	5.7	9.7
Tuesday	7.8	12.6	10.4	12.2	18.6	15.3
Wednesday	10.2	16.3	13.5	9.5	12.9	11.1
Thursday	11.3	12.6	12.0	10.8	21.4	16.0
Friday	17.6	19.0	18.4	10.8	22.9	16.7
Saturday	25.8	11.6	18.2	18.9	7.1	13.2
Sunday	16.0	12.9	14.4	24.3	11.4	18.1
Day of Week (4 am Start)						
Monday	11.3	14.6	13.1	12.2	5.7	9.0
Tuesday	8.6	13.3	11.1	14.9	18.6	16.7
Wednesday	10.5	15.6	13.3	8.1	12.9	10.4
Thursday	10.9	12.9	12.0	9.5	21.4	15.3
Friday	24.2	19.4	21.6	18.9	27.1	22.9
Saturday	25.0	11.6	17.8	16.2	5.7	11.1
Sunday	9.4	12.6	11.1	20.3	8.6	14.6

TABLE 3.4

VEHICLES INVOLVED IN FATAL CRASHES
BY TYPE OF ACCIDENT
(IN PERCENT)

	1972-1976			1977		
	A/R	Sober	Total	A/R	Sober	Total
Number of Cases	256	294	550	74	70	144
Vehicle Number						
One	48.8	41.2	44.7	60.8	48.6	54.9
Two	43.0	47.3	45.3	36.5	45.7	41.0
Three or more	8.2	11.6	10.0	2.7	5.7	4.2
Vehicle Type						
Single Vehicle (exc. pedestrian)	21.5	11.6	16.2	23.0	8.6	16.0
Multi-vehicle (exc. pedestrian)	48.4	57.1	53.1	36.5	50.0	43.1
Pedestrian	30.1	31.3	30.7	40.5	41.4	41.0

TABLE 3.5

SEX, AGE AND ORIGIN
OF DRIVERS IN FATAL CRASHES
BY TYPE OF DRIVER
(IN PERCENT)

	1972-1976			1977		
	A/R	Sober	All	A/R	Sober	All
Sex						
Number of Cases	183	480	866	51	101	198
Male	91.3	76.3	78.7	84.3	70.3	75.8
Female	8.7	23.8	21.3	15.7	29.7	24.2
Age						
Number of Cases	183	480	876	51	102	199
Under 20	13.7	19.6	17.0	17.6	21.6	18.1
20 - 29	44.3	30.6	35.7	43.1	32.4	37.7
30 - 39	16.9	16.3	17.7	25.5	18.6	20.1
40 - 49	18.0	12.3	13.2	7.8	2.9	5.0
50 and over	7.1	21.3	16.3	5.9	24.5	19.1
(MEAN)	(31.0)	(35.6)	(33.7)	(29.3)	(34.2)	(32.9)
Origin						
Number of Cases	182	469	857	51	102	199
Caucasian	70.9	82.1	79.2	74.5	80.4	79.4
Mexican-American	20.3	9.6	12.5	15.7	9.8	13.1
Black	6.0	6.0	6.0	5.9	7.8	5.5
Other	2.7	2.3	2.3	3.9	2.0	2.0

TABLE 3.6

AGE OF DRIVER IN FATAL CRASHES
BY YEAR AND TYPE OF DRIVER
(IN PERCENT)

	1972	1973	1974	1975	1976	1977
A/R						
(Number)	(36)	(34)	(46)	(39)	(28)	(51)
Under 20	2.8	8.8	19.6	25.6	7.1	17.6
20 - 29	63.9	41.2	41.3	30.8	46.4	43.1
30 - 39	8.3	23.5	19.6	10.3	25.0	25.5
40 - 49	22.2	20.6	15.2	17.9	14.3	7.8
50 and over	2.8	5.9	4.3	15.4	7.1	5.9
Sober						
(Number)	(90)	(107)	(88)	(103)	(92)	(102)
Under 20	17.8	28.0	21.6	14.6	15.2	21.6
20 - 29	25.6	19.6	34.1	40.8	33.7	32.4
30 - 39	21.1	13.1	15.9	15.5	16.3	18.6
40 - 49	17.8	15.9	10.2	9.7	7.6	2.9
50 and over	17.8	23.4	18.2	19.4	27.2	24.5
All						
(Number)	(167)	(181)	(187)	(192)	(149)	(199)
Under 20	12.0	23.2	18.7	16.7	13.4	18.1
20 - 29	39.5	25.4	39.0	37.5	37.6	37.7
30 - 39	18.6	17.1	17.1	16.7	19.5	20.1
40 - 49	16.2	15.5	13.4	11.5	9.4	5.0
50 and over	13.8	18.8	11.8	17.7	20.1	19.1

TABLE 3.7

SEX, AGE AND ORIGIN OF
FATALLY INJURED PEDESTRIANS
BY TYPE OF PEDESTRIAN

	1972-1976			1977		
	A/R	Sober	All	A/R	Sober	All
Number of Cases	53	118	174	21	40	62
Sex						
Male	83.0	61.9	69.0	76.2	64.1	67.2
Female	17.0	38.1	31.0	23.8	35.9	32.8
Age						
Under 20	15.1	33.1	28.2	4.8	30.0	21.0
20 - 29	9.4	2.5	4.6	14.3	7.5	9.7
30 - 39	15.1	2.5	6.3	33.3	2.5	12.9
40 - 49	17.0	7.6	10.3	4.8	0.0	1.6
50 and over	43.4	54.2	50.6	42.9	60.0	54.8
(MEAN)	47.1	47.9	47.3	44.1	47.1	46.4
Origin						
Caucasian	58.5	79.7	73.6	57.1	77.5	71.0
Mexican-American	30.2	13.6	18.4	28.6	10.0	16.1
Black	1.9	5.9	4.6	4.8	12.5	9.7
Other	9.4	0.8	3.4	9.5	0.0	3.2

TABLE 3.8

TIME AND DAY OF PEDESTRIAN CRASHES
BY TYPE OF PEDESTRIAN

	1972-1976			1977		
	A/R	Sober	All	A/R	Sober	All
Number of Cases	53	118	174	21	40	62
Time of Day						
Mid. - 4 am	28.3	5.1	12.6	42.9	12.5	22.(
4 am - 8 am	11.3	7.6	8.6	4.8	5.0	6.!
8 am - Noon	3.8	11.9	9.2	0.0	10.0	6.!
Noon - 4 pm	3.8	14.4	10.9	0.0	7.5	4.8
4 pm - 8 pm	22.6	42.4	35.6	33.3	42.5	38.7
8 pm - Mid.	30.2	18.6	23.0	19.0	22.5	21.(
Day of Week (Midnight Start)						
Monday	15.1	13.6	13.8	14.3	17.5	16.1
Tuesday	7.5	8.5	8.6	4.8	15.0	11.3
Wednesday	13.2	16.1	14.9	4.8	12.5	11.3
Thursday	11.3	11.0	11.5	9.5	12.5	11.3
Friday	20.8	19.5	19.5	9.5	17.5	14.!
Saturday	18.9	17.5	17.8	33.3	5.0	14.!
Sunday	13.2	13.6	13.8	23.8	20.0	21.(
Day of Week (4 am Start)						
Monday	15.1	13.6	13.8	9.5	15.0	12.!
Tuesday	7.5	10.2	9.8	4.8	17.5	12.!
Wednesday	15.1	15.3	14.9	9.5	10.0	11.3
Thursday	9.4	10.2	10.3	4.8	12.5	9.7
Friday	28.3	21.2	23.0	33.3	22.5	25.8
Saturday	17.0	16.9	17.2	19.0	2.5	8.1
Sunday	7.5	12.7	10.9	19.0	20.0	19.4

4. SHORT-TERM REHABILITATION (STR) STUDY

4.1 INTRODUCTION

The Short-Term Rehabilitation (STR) study was undertaken at the Federal level to provide a more comprehensive evaluation of ASAP treatment effectiveness. A total of 11 ASAP sites participated in the STR study during the 1975-77 period. Phoenix was one of these. The original intent of the study was to evaluate a new alcohol treatment modality called Power Motivation Training (PMT).[18] Based on a distinct set of theoretical principles and well-defined therapeutic practices, PMT represented a short-term treatment which could be readily implemented within local ASAP rehabilitation systems. The name of the study was later changed from "PMT" to "STR" to reflect the addition of other treatment modalities to the experimental designs of individual ASAP sites.

The evaluation model for STR called for an initial contact (baseline) session and periodic follow-ups at 6, 12 and 18 months to assess the effects of short-term DWI treatment on various behavioral domains related to problem drinking. Last year's Final Report contained an interim analysis of STR based on data collected at initial contact, and at the 6 and 12 month follow-ups. The present section updates this evaluation by considering the 18 month data, as well as reporting the results of an analysis of four direct drinking measures which were not included in last year's report.

4.2 METHOD

a. Design. Figure 4.1 presents the research design for the STR study. As shown in this flow chart, assignment of subjects to treatment was accomplished as a three stage process.

Persons were first classified into one of two broad categories along a social/problem drinking continuum. Only those individuals who were classified as "mid-range" problem drinkers were selected for inclusion in the pool of clients eligible for participation. This decision was based on the assumption that the rehabilitation alternatives included in the design of the study were suitable neither for nonproblem drinkers or for individuals with extremely serious or advanced drinking problems. Drinker classification was determined on the basis of a short diagnostic screening test and a pre-sentence investigation consisting of a search of prior DWI arrest and conviction records.

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[18] Cutter, H. S., McClelland, D. C., Boyatzis, R. E., & Blancy, D. D. The effectiveness of power motivation training for rehabilitating alcoholics. McBer and Company, Boston, 1975; see also, Boyatzis, R. E. Drinking as a manifestation of power concerns. Paper presented at the Ninth International Congress on Anthropological and Ethnological Sciences, Chicago, August, 1973.

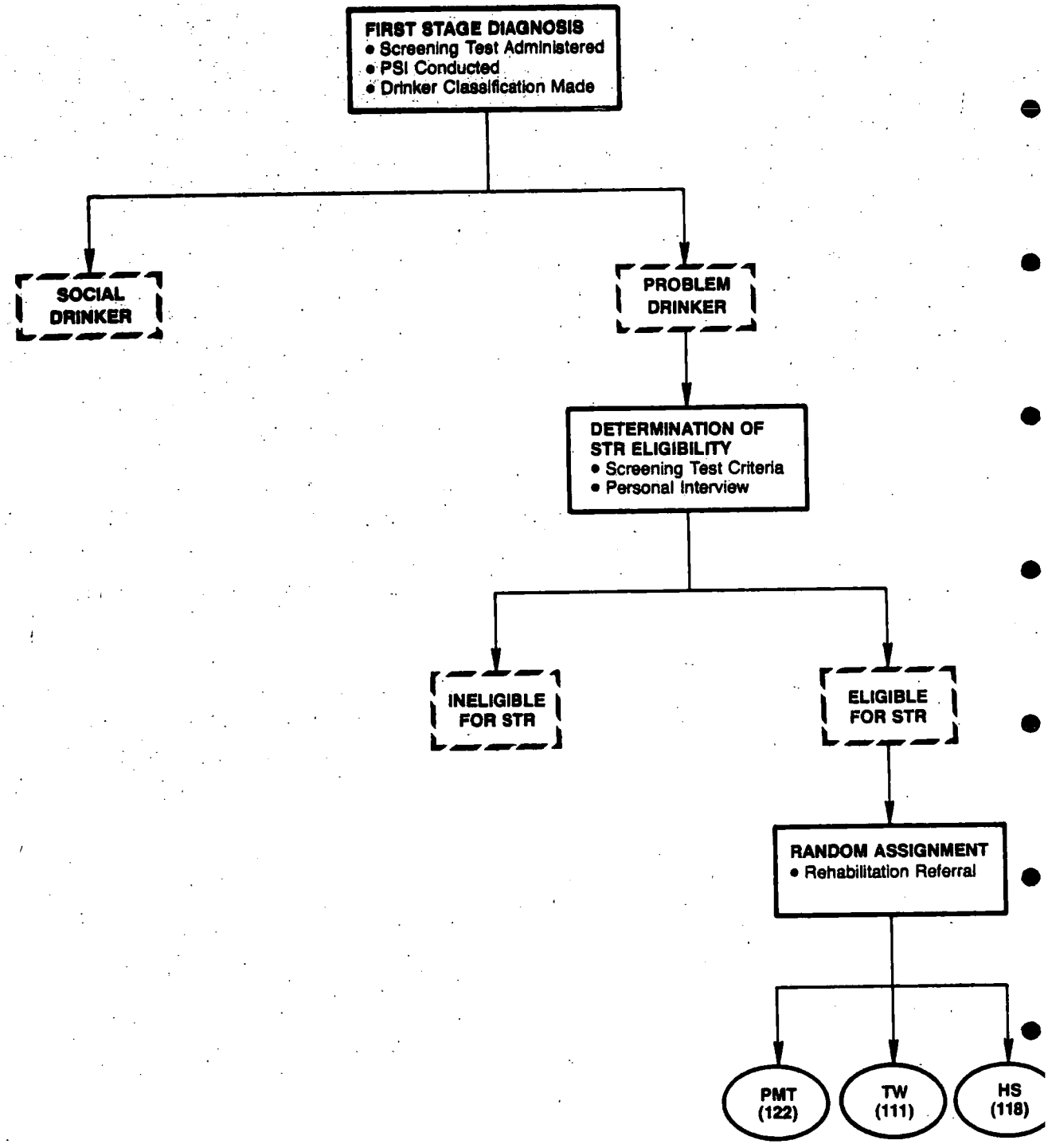

FIGURE 4.1

STR RESEARCH DESIGN

The second stage of the general STR model also involved a reduction in the size of the client pool through selection procedures designed to eliminate individuals for whom participation was considered inappropriate. The chief factors leading to exclusion of potential subjects at this stage included observation of physical or emotional problems which were considered serious enough to disqualify the individual from participation. In some instances, individuals could disqualify themselves at this stage by refusing to participate in the study. In general, however, court incentives for participation were sufficient to minimize this source of attrition.

Random assignment of individuals to treatment alternatives occurred at the final stage of the STR design.

Two rehabilitation modalities designed to modify the behavior of problem drinker DWIs were evaluated.

Power Motivation Training (PMT) was a four-session program involving 32 hours of therapeutic contact. PMT employed a series of experiential exercises to give participants feedback on their level of risk-taking, strategies of goal setting and quality of interpersonal communication in stressful situations.

DWI Therapy Workshops (TW) was a six-session program involving 15 hours of therapeutic contact. Information giving and problem identification were emphasized. Included was a one-hour exit interview where the client's needs were assessed and an attempt was made to motivate the individual to seek further treatment.

These two programs were compared with a minimum-exposure Home Study Course consisting of a single 30-minute session for distribution of an educational learning guide. Subjects were required to complete and return by mail a number of written exercises.

It was hypothesized that subjects exposed to short-term treatment would improve relative to their baseline performance, while those receiving minimal exposure would not. This would be expected to result in a statistically significant interaction of treatment and comparison group profiles.

b. Subjects. Subjects were 351 males referred for rehabilitation as the result of a DWI arrest within the city limits of Phoenix, Arizona. The sample was predominantly white (76%), Protestant (52%) and between the ages of 20-34 (65%). The average age was 30.4 years. The mean level of education was 11.7 years, while the average net monthly income for families was $655. One-third were unemployed. Almost three-quarters (73%) had been married at least once (45% currently had a spouse). The average Blood Alcohol Concentration (BAC) reading at the time of arrest was .20. Over one-half (53%) had one or more prior DWI arrests, with lesser percentages having prior arrests categorized as reckless driving (11%), other traffic (42%) and other criminal (36%). Almost all (97%) had been arrested for a hazardous moving violation, while 26% had a prior history of traffic accident

involvement. Most (58%) were entering alcohol-related treatment for the first time. Random assignment appeared to have the desired effect of controlling between-group differences with respect to these variables.

c. Test Battery. A data collection battery called the Life Activities Inventory was developed for use in follow-up of clients assigned to treatment and comparison group conditions. The Life Activities Inventory comprised a set of four data collection instruments:

(1) The Mortimer-Filkins (M-F) Questionnaire was used as a measure of drinking problem severity. As such, these data were not considered central to the evaluation of treatment effectiveness.

(2) The Current Status Questionnaire (CSQ) and Personality Assessment Scale (PAS) were developed in their original version by the Fort Logan Mental Health Center, Denver, Colorado, as part of their research with an inpatient alcoholism treatment center population.* The CSQ was designed to provide for the measurement of outcomes relevant to nontraffic safety criteria. The PAS was designed to assess personality concomitants of problem drinking; its inclusion in the data collection battery was intended to provide for a thorough description of STR clients, and as a source of criteria reflective of client adjustment.

(3) The Life Activities Interview (LAI) was developed specifically for the STR study by the Human Factors Laboratory, University of South Dakota. This instrument was designed to obtain measures of client adaptation, adjustment and behavior reflective of the same general types of outcomes as those provided by the CSQ. The LAI was administered in a face-to-face interview as opposed to the CSQ and PAS which were self-completed questionnaires.

(4) Records check data were collected by a coding clerk at the Phoenix Police Department. Information included index DWI arrest and conviction dates, arrest BAC reading, number of prior arrests for DWI, and other moving vehicle offenses. Records check documents also provided for the recording of arrest/conviction incidents associated with the

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*Foster, F. M., Horn, J. L., & Wanberg, K. W. Dimensions of treatment outcome: A factor-analytic study of alcoholics' responses to a follow-up questionnaire. Quarterly Journal of Studies on Alcohol, 1972, 33, 1079-1098; see also, Horn, J. L., Wanberg, K. W., & Adams, G. Diagnosis of alcoholism: Factors of drinking, background and current conditions in alcoholics. Quarterly Journal of Studies on Alcohol, 1974, 35, 147-175.

following categories of nontraffic offenses: property, assault/battery, sex, public intoxication and other crimes.[15]

d. Data Collection. Clients selected for STR were asked to complete the above-mentioned questionnaire/interview as part of their rehabilitation assignment. The initial contact session was about 1-1/2 hours long and was scheduled at the client's earliest possible convenience. In a few instances, the intake occurred on the same day the client attended his PACT Court Session. In most cases, however, the client was scheduled to return sometime during the two week period following PACT orientation, but prior to rehabilitation entry. The LAI portion of the initial contact questionnaire/interview was administered by the PMT or STR Coordinator, both of whom received interviewer training as part of an NHTSA workshop on STR held in Denver in April, 1975.

Initial contact data were gathered on 373 clients. Unfortunately, because of scheduling problems, not everyone who contributed baseline data to the study did so before entering treatment. These cases, 20 in all, were identified and excluded from the sample. Additionally, two persons died and had to be dropped from the study. A total of 351 clients were included in the final sample and an attempt was made to follow them up at 6, 12 and 18 months following their date of initial contact.

Follow-up interviewing was accomplished by several part-time employees who received approximately ten hours of training and practice in administering the data instruments from local staff. Supervision of these employees as well as overall STR coordination was made the responsibility of the in-house Evaluation Unit.

Procedures for tracking clients were developed to minimize attrition as much as possible. Interviewers either telephoned the participant to set up an appointment or went directly to the person's place of residence. Interviewing was carried out in the field or at ASAP offices. If the client lived far from Phoenix, the CSQ and PAS questionnaires were mailed and LAI data were not collected. No interviewing was done by telephone.

e. Attrition. As might be expected in a study of this nature, the rate of attrition from initial contact to 18 month follow-up posed a problem, both in terms of ensuring adequate numbers for statistical analysis and in locating

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[15]These data were excluded from analysis because the frequency of prior and subsequent arrests/convictions associated with traffic and other offenses was too small to warrant consideration. In addition, the STR sample in Phoenix was a subset of a much larger group of randomly assigned subjects who were tracked for purposes of evaluating the effect of treatment on subsequent DWI arrest experience (see section 5). Future program-level analyses will make maximum use of data from all 11 ASAP sites, including criteria related to traffic safety objectives.

and interviewing disgruntled and often hostile clients. Attrition reached 27% at the 6 month interval and 33% after twelve months. Cumulative attrition was still only 38% at the 18 month follow-up. These attrition rates are comparable to those experienced at other ASAP sites and are considered quite satisfactory given the nature of the study and characteristics of the client population.

4.3 OUTCOME MEASURES

a. Direct Drinking Criteria. A set of indices explicitly related to client drinking behavior was derived from specific questions contained in the LAI and CSQ instruments. This subset of measures was designed to match, as closely as possible, the outcome measures utilized in assessments of the effectiveness of NIAAA alcohol treatment programs.[16] The four criterion measures intended to accomplish this purpose are:

(1) Number of Days Abstinent: This measure of drinking behavior was derived from a CSQ question which solicits the client's self report of the number of days since his last drink.

(2) Average Quantity of Alcohol Consumption: This measure was obtained from an LAI question computed as the mean number of ounces of ethanol consumed per day during the week prior to administration of the interview.

(3) Typical Quantity of Alcohol Consumption: This measure was obtained from an LAI question computed as the number of ounces of ethanol consumed on a typical drinking day during the week prior to administration of the interview.

(4) Drinking Behavior: An overall index of self reported drinking behavior was derived from a set of LAI and CSQ items and was calculated as a three category index which could assume one of the following values:

1 = complete abstinence for 30 days or more,

2 = a pattern of "normal drinking" during the preceding seven days,

3 = a pattern of excessive or abusive drinking during the preceding 30 days.

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[16] Armor, D. J., Polich, J. M., & Stambul, H. B. Alcoholism and treatment (Report No. R-1739-NIAAA). Santa Monica, Calif.: The Rand Corporation, June 1976; see also, Eagleston, J. R., Rittenhouse, C. H., Towle, L. H., & Weigand, V. K. Development of a pilot program for monitoring and evaluating the operation of ten DOT/NIAAA joint alcoholism programs--evaluation of the ASAP/AC program. Menlo Park, Calif.: Stanford Research Institute, September 1974.

b. Life Status Criteria. The LAI, CSQ and PAS instruments were subjected to an extensive series of analyses in order to produce distinct scales capable of providing measurement of client status along a number of behavioral and personality dimensions. General scoring procedures were based on analysis of the national STR population (N=3,681) at initial intake and are described elsewhere.[17]

Based upon these analyses, five composite LAI/CSQ scales, two LAI scales, two CSQ scales and two PAS scales were calculated for each subject based on his responses to LAI, CSQ and PAS questions at each contact point. These measures reflect the following client attributes:

(1) LAI/CSQ Scale 1: Current Drinking Pattern. Provides an index of the client's current pattern of drinking behavior. Individuals scoring high on this dimension provide self-reports of high quantity and frequency of drinking in the recent past and relatively short periods of abstention.

(2) LAI/CSQ Scale 2: Employment/Economic Stability. Reflects the client's employment stability and economic productivity. Clients achieving high scores on this dimension exhibit greater income production and stability of employment. Low scores would be indicative of problems in this life status dimension.

(3) LAI/CSQ Scale 3: Current Physical Health Problems. Self-reports of physical health problems are reflected by this scale. A high scale score represents the report of substantial numbers of physical health complaints, while low scores reflect self-diagnosis of health and well-being.

(4) LAI/CSQ Scale 4: Social Interaction: Represents a social withdrawal versus social interaction dimension of client behavior. The individual scoring high on this scale would tend to be outgoing, gregarious, and socially active; low scoring individuals would tend to be withdrawn and alienated from others.

(5) LAI/CSQ Scale 5: Current Drinking Problems. Represents a broad index of self-reported drinking problems. High scores are indicative of the presence of such problems, while low scores appear to represent relative freedom from these difficulties.

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[17] Ellingstad, V.S. Program level evaluation of ASAP diagnosis, referral and rehabilitation efforts: Volume IV - Development of the short term rehabilitation (STR) study (DOT-HS-191-3-759-F4). Vermillion, S. Dak.: University of South Dakota, Human Factors Laboratory, June 1976. (NTIS No. DOT-HS-802 045)

(6) LAI Scale 2: Current Quantity/Frequency of Alcohol Consumption. Represents a relatively simple index of quantity/frequency of drinking. High scores would be obtained by clients whose current consumption was relatively large and whose frequency of drinking (at least for the prior week) was high.

(7) LAI Scale 6: Immoderate Drinking Behavior. This factor is labeled "immoderate drinking behavior" because the items represent self-admission of incidents during which large amounts of alcohol were consumed (times drunk, times driven with three or four drinks, times got away with DWI) or physiological and social consequences of heavy drinking (times experienced blackouts and binges from drinkings, days missed work either drunk or hung over). High scores on this scale reflect self-reports of relatively more immoderation.

(8) CSQ Scale 1: Marital Problems. High scores on this scale would be obtained by individuals reporting a high degree of client-spouse conflict or marriage difficulty. It should be noted that this measure was only available for approximately one-half of the sample.

(9) CSQ Scale 2: Drinking Problems/Regulation of Drinking. Represents self-reports of problems due to drinking and the extent to which subjects were able to regulate their drinking behavior. High scores are indicative of control over drinking behavior and problems, while low scores suggest the presence of problems due to alcohol.

(10) PAS Scale 2: Anxiety, Depression and Tension. High scores on this scale are indicative of self-admission of greater numbers of anxious/depressive symptoms than low scores.

(11) PAS Scale 6: Self-Image. A high score on this scale suggests an insecure, indecisive, self-debasing individual, while a low score is indicative of self-assurance and a positive self-image.

4.4 ANALYSIS

If the direct drinking and life status data were to be analyzed with traditional repeated measures techniques, the design would be a straightforward treatment by time design with subjects repeated across time. A problem exists, however, in that the conventional analysis of variance applied to designs in which each subject is measured repeatedly requires stringent assumptions regarding the variance-covariance structure of the data.[18] In the simplest case, that of a one-factor univariate analysis of

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[18] McCall, R. B., & Appelbaum, M. I. Bias in the analysis of repeated-measures designs: Some alternative approaches. Child Development, 1973, 44, 401-415.

variance, the assumptions require that the population covariances among the repeated measures are equal. When the experiment has more than one factor, the covariance assumptions are more restrictive. In the present study, for example, there are two factors--treatment groups with three levels and time with four levels. In this case, two covariance assumptions must be made. First, the matrix of variances-covariances among the several levels of the repeated measure (time) must be the same within each level of the nonrepeated factor (groups). Second, the covariances pooled across levels of the independent factor must be homogeneous. Evidence suggests that these assumptions are frequently violated, especially when a treatment effect is present. While the repeated measures analysis of variance is robust with respect to violations of the assumptions regarding homogeneity of variance and normality, it is not robust with respect to violations of the covariance assumptions. This bias results in too many rejections of the null hypothesis for the stated level of significance.

To overcome this objection, a multivariate analysis of variance (MANOVA) approach was employed. MANOVA yields the same tests of effects (treatment main effect, time main effect, and treatment by time interaction) as the traditional repeated measures design without the necessity of having equal correlations among all cells of the design.[19]

The application of MANOVA involves the computation of a set of linear contrasts which are introduced in the analysis as dependent variables. For the four direct drinking measures, three contrasts corresponding to simple differences between individual occasion means were computed for each subject:

(1) initial contact minus 6 month follow-up,

(2) 6 month follow-up minus 12 month follow-up, and

(3) 12 month follow-up minus 18 month follow-up.

Also required was the computation of the sum of the three difference scores. For the 11 life status scales, orthogonal polynomial contrasts were generated for each subject by multiplying the appropriate polynomial coefficient by the subject's score at each level of the repeated factor. These were also added to produce a summed score.

Three separate tests are performed in the execution of a multivariate analysis of variance: a test of parallel profiles, a test of equal levels, and a test of slope. The test of parallel profiles corresponds to the traditional repeated measures test of interaction. Computationally, this multivariate test is rather complex. Conceptually, however, it is relatively simple. It may be viewed as a test of whether or not the pattern of contrast scores across time is the same for each group under consideration. In the present case, it is a test of whether the comparison group behaves the same as the two

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[19] Morrison, D. F. Multivariate statistical methods. New York: McGraw-Hill, 1967.

treatment groups across time. Significance is indicative of nonparallel profiles. This test, therefore, is of primary interest.

The test of equal levels corresponds to the repeated measures test of group effect. Just as in the traditional repeated measures case, the test of equal levels is only valid in the absence of a significant test of parallel profiles (interaction). Computationally, the test is a simple one way analysis of variance comparing treatment and comparison group difference score sums. In the present case, the test of equal levels is not of particular interest. Significance is simply indicative of an initial difference between treatment and comparison groups which remained at follow-up. The major value of this test would be to call attention to possible random assignment problems as indicated by initial group differences.

The test of slope is analogous to the traditional repeated measures test of the time main effect. Computationally, the procedure is equivalent to a simultaneous test of all difference scores against zero (Hotelling's T^2). Again, the test of slope is only valid in the absence of a significant test of parallel profiles (interaction). Given this precondition, a significant test of slope is indicative of a similar change across time for both comparison and treatment groups. In the present context, a significant test of slope indicates a change across time attributable to something other than a treatment effect.

Only those cases with valid scores at all four data points (initial contact, 6, 12, and 18 month follow-ups) were included in the analysis of direct drinking and life status data. Since a proportion of cases possessed complete data for less than the total number of outcome measures, it was decided to analyze each measure separately in order to conserve sample size. This means that, strictly speaking, none of the analyses was based on exactly the same subject sample, although fluctuations (with the exception of the marital problems scale) were minor enough for this problem to be considered trivial. The one disadvantage with this procedure is that the risk of making an experiment-wise error increases in relation to the number of analyses being conducted. However, it was felt that conservation of sample size outweighed the risk of obtaining spurious results.

Results of the analysis are presented in section 4.5. A series of tables and graphs follows a discussion of the findings. The tables show the results of the MANOVA for group main effect, time main effect and the groups by time interaction. Shown is the F term, its associated degrees of freedom (df), the probability level (p) of obtaining the observed result and the sample size (n) for each group. The graphs represent plots of group means at each successive time period and thus, depict differences among group profiles across time.

4.5 RESULTS

a. Direct Drinking Criteria. Four measures reflective of a person's drinking behavior were derived from responses to the LAI and CSQ instruments. These indices are: number of days abstinent, average quantity of alcohol

consumption, typical quantity of alcohol consumption and a three category index of drinking behavior ranging from complete abstinence to a pattern of abusive drinking.

The MANOVA applied to these criteria produced a marginally significant interaction term for the typical quantity measure, F (6,342) = 2.00, $p < .065$, indicating a degree of nonparallelism among group profiles. Main effects tests for groups and time were nonsignificant. Table 4.1 presents the results of statistical testing for the typical quantity measure. Group profiles are shown in Figure 4.2.

Inspection of this graph reveals a distinct downward trend from initial contact to 12 months in the typical amount of alcohol consumed for persons enrolled in Therapy Workshops. Typical quantity increased from baseline to six months for persons in PMT with relatively little change shown after that. The fact that typical consumption for this group was actually higher at follow-up is contrary to the experimental hypothesis. For the comparison group, there was an increase in the amount of alcohol typically consumed reported at the 12 month contact. After 18 months, reports of typical alcohol consumption had returned to a level slightly below that evidenced at the baseline and 6 month contacts.

Figure 4.3 compares average quantity of alcohol consumption for the three groups under consideration. This graph shows that the Therapy Workshop mean declined from 1.35 oz. to 0.88 oz. across time. The PMT profile remained stable over a one-year time period and then decreased slightly from the 12 to 18 month follow-up. The Home Study profile was more variable, both in terms of the magnitude and direction of change which was shown at each successive follow-up.

Although visual inspection of Figure 4.3 indicates that Therapy Workshops had more of an effect in bringing about desired change, statistical testing revealed that the three group profiles did not depart significantly from a parallel line condition (i.e., no interaction). Table 4.2 shows that the main effect test for time was marginally significant, F (3,171) = 2.14, $p < .097$, indicating a change across time that was undifferentiated by treatment or comparison group membership. Figure 4.3 does reveal a general trend toward decreased amounts of alcohol consumed at the later time periods, with Therapy Workshops making the strongest contribution to this effect.

Group profiles for the number of days abstinent measure are shown in Figure 4.4. Inspection of this graph reveals a marked similarity in the shape of the curves resulting in a nonsignificant test of parallel profiles (interaction). Table 4.3 shows that a highly significant time main effect was obtained, F (3,169) = 7.85, $p < .001$, with the mean number of days abstinent jumping from just above six days at baseline to over 44 days after 18 months. Once again, Therapy Workshops were most improved, followed by PMT and the Home Study comparison group. The main effect test for groups was nonsignificant.

Results for the three category index of abstinent/abusive drinking behavior are depicted in Figure 4.5. Group profiles were even more similar than the previous comparison, not a surprising result in that this measure utilized information pertaining to number of days abstinent to arrive at an overall categorization of a person's drinking behavior. The time main effect was the only statistically significant finding, with all three groups exhibiting a positive shift toward a pattern of "normal drinking" during the seven days preceding follow-up, F (3,155) = 17.33 $p < .001$. Table 4.4 displays the results of statistical testing for this measure.

b. Life Status Criteria. A total of 11 scales were derived from the LAI, CSQ and PAS instruments. Essentially the same multivariate analysis was also performed on these data in order to assess short-term treatment effects on various behaviorial domains more indirectly affected by problem drinking.

Two striking results emerged from these analyses. First, none of the interaction tests achieved significance indicating no significant variance in response patterns across time which could be attributed to membership in either of the two treatment groups or the Home Study control. In an analysis of this nature, it is not unreasonable to expect one significant interaction on the basis of chance alone, so the complete lack of interaction is noteworthy.

Second, 10 of the 11 analyses produced highly significant time main effects. For scales defining the areas of alcohol consumption (LAI/CSQ1, LAI2, LAI6), employment stability (LAI/CSQ2), physical health (LAI/CSQ3), problems due to drinking (LAI/CSQ5), control of drinking problems (CSQ2) and anxiety/depression (PAS2), the effect was one of general improvement for all three groups across time. Results for these scales are shown in Tables 4.5 - 4.12. Group profiles are depicted in Figures 4.6 - 4.13. Inspection of these graphs indicates that the nature of change observed for most scales was one of relatively more improvement between initial contact and six months, with a gradual tapering off at the two later follow-up intervals.

Analysis of the social interaction scale (LAI/CSQ4) indicated a significant increase in reports of withdrawal and social alienation at both the 12 and 18 month follow-ups, while marital problems (CSQ1) appeared to improve initially and then grow worse. Results for these two scales are shown in Tables 4.13 and 4.14 and Figures 4.14 and 4.15. Group profiles depicting self-image (PAS6), shown in Figure 4.16, were relatively flat across time. Table 4.15 confirms what is evident from visual inspection of this graph; none of the tests achieved statistical significance, indicating a complete lack of treatment impact on this particular personality trait.

4.6 DISCUSSION

In the present study, a total of 15 analyses were carried out to assess differential effects of court-mandated short-term DWI treatment for a sample of 351 offenders classified as problem drinkers in Phoenix, Arizona. Results of analyses treating four direct drinking outcome measures, similar to ones

used in the Rand evaluation of NIAAA treatment programs, produced some positive results. Treatment and comparison group profiles were marginally different (i.e., the test of parallel profiles was marginally significant) for the typical quantity measure, with Therapy Workshops showing a consistent improvement across time when compared to PMT and Home Study. All three groups reported increasing numbers of days abstinent and there was also improvement shown for the three category drinking behavior measure. These results were expressed as highly significant time main effects. It should be noted that despite the lack of interaction, the two treatment groups showed relatively more improvement than the Home Study control.

Analysis of 11 scales defining a broad spectrum of behavioral and personality domains related to problem drinking also revealed marked improvement. However, there was no indication that treatment had more of an effect in improving problem drinkers' life situations than minimal exposure. None of the interaction tests achieved statistical significance, a result contrary to what would be expected if treatment were differentially affecting subsequent behavior.

Taken at face value, the results of the present series of analyses are not very encouraging with respect to the apparent capacity of short-term treatment programs to affect the behavior of DWI clients referred by the courts. A number of alternative explanations may be suggested to account for the observed lack of treatment effects.

To begin with, each of the clients assigned to rehabilitation and comparison group conditions was exposed to substantial amounts of interaction with police, courts and probation offices between the time of the index DWI arrest and the first follow-up contact. It is possible that normal punitive sanctions and the various inconveniences caused by the processing of the DWI case may have exerted an influence on client behavior which masked treatment effects. Also, clients' perceptions about receiving a plea agreement, participating in rehabilitation activities, cooperating with interviewers or even being in an experiment may have influenced their responses in a systematic way. Unfortunately, there was no way to control for this in the present study since practical realities ruled out the idealized random assignment design of 50% to treatment and 50% to a no-treatment control group. The use of even a small no-treatment control was prohibited by the Chief Presiding Judge on the grounds that uniform plea bargaining policy required that all offenders do something in return for having their DWI charge dismissed. This legal restriction made it necessary to use a minimum-exposure comparison group for purposes of evaluating treatment effectiveness. Lacking a pure control, it appears that the internal validity of the experimental design may have been affected.[20] It should also be noted that the delay between the time of the index arrest and entry into treatment was extensive in some cases. Thus, client behavior assessed during the initial interview may

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[20] Campbell, D. T., & Stanley, J. C. Experimental and quasi-experimental designs for research. Chicago: Rand McNally, 1963.

not have reflected the characteristics of the client at the time of the index arrest, but rather, may have been at least temporarily modified by events subsequent to the arrest.

An additional issue which must be considered concerns the status of the STR sample with respect to the outcome criteria utilized in the assessment of treatment effectiveness. There is some evidence to suggest that the DWI clients who constitute the present subject pool are in many respects more similar to "normal drinking-age adults" than to problem drinkers and alcoholics encountered by treatment agencies.[21] It is necessary to consider the possibility that less "room for improvement" exists for these subjects than for other client populations.

It also seems reasonable to suppose that particular types of treatment may be differentially effective for different types of individuals. Within a particular experimental design which compares the performance of clients exposed to treatment X with a corresponding group not exposed to treatment X, the two groups might be composed of some individuals who are susceptible to the effects of the treatment and others who are not. In order to attain overall significance in such a comparison, it is necessary that the treatment effect exhibited by those individuals for whom the treatment works be sufficiently large that it is not masked by the lack of effect for the remaining subjects. This issue is further complicated by the fact that a minimum-exposure comparison group was used for evaluation purposes.

Results such as these are not uncommon to evaluations of treatment programs designed to modify alcoholic or DWI offender behavior. The Rand study concluded that different types of alcoholism treatment had little or no differential effect on subsequent drinking behavior. Remission was nearly 70% for both follow-up samples regardless of treatment assigned. Another study found a decrease in mean scores on two alcohol impairment measures for DWI's over a 30-day period that was similar for treatment and control groups.[22]

Despite the impotence of present social program evaluation methodology to detect positive effects, the future of court-mandated DWI treatment programs seems assured, especially programs that are self-supporting through client fees and function as an integral part of an efficiently operating judicial system such as the one in Phoenix. Given a sizable number of arrests, a retreat to traditional DWI adjudication would probably be disastrous in terms

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[21] Ellingstad, V. S., & Struckman-Johnson, D. L. Interim analysis of STR performance and effectiveness (HFL-77-3). Vermillion, S. Dak.: University of South Dakota, Human Factors Laboratory, June 1977. (NTIS No. DOT-HS-802 569)

[22] Scoles, P., & Fine, E. W. Short-term effects of an educational program for drinking drivers. Journal of Studies on Alcohol, 1977, 38, 633-637.

of court backlog and existing manpower and facilities available to cope with the problem. Of course, this does not mean that existing research strategies and/or treatment plans cannot be changed to better achieve stated objectives.

With regard to future research, better controls must be found which are still appropriate to the real world constraints imposed by legal systems and social ethics. Further research directed at identifying relationships between DWI client characteristics and outcome criteria (client by treatment interactions) is also needed. On the other hand, planning specialists should become more attentive to the relationship between program objectives and the outcome criteria that are employed to measure program success. In this regard, it may be too much to expect that exposure to short-term rehabilitation will modify subsequent DWI and drinking-related behaviors. While an educational experience might be sufficient to change the behavior of "light" (easily influenced) social drinkers, really intensive treatment is probably needed for problem drinkers and alcoholics. To help these people, session length would have to be expanded many times over. This presents a challenge to a criminal justice system which has limited control over the DWI misdemeanant.

TABLE 4.1

STR ANALYSIS OF DIRECT DRINKING MEASURES:
TYPICAL QUANTITY OF ALCOHOL CONSUMPTION

Effect	Summed Performance Over Time		Time Main Effect
Test of Overall Mean (Elevation)			MF = 0.76 df = 3,171 p < .516
	Group Main Effect	Individual Contrasts	Interaction of Slopes (Group Profiles)
Test of STR Group Differences	F = 0.27 df = 2,173 p < .764		MF = 2.00 df = 6,342 p < .065
Sample Size PMT: 57 TW : 59 HS : 60			

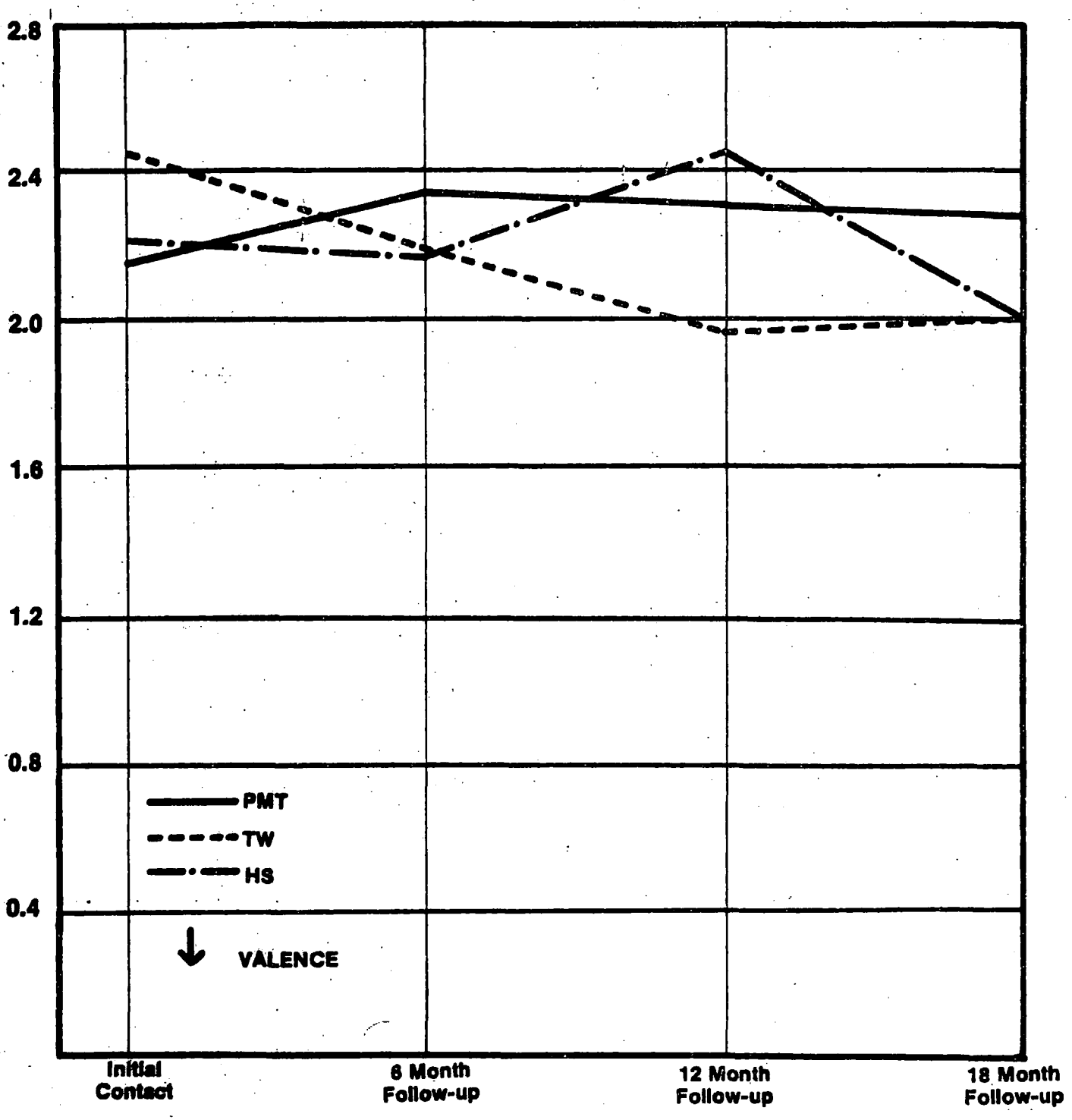

FIGURE 4.2
STR ANALYSIS OF DIRECT DRINKING MEASURES: TYPICAL QUANTITY OF ALCOHOL CONSUMPTION

TABLE 4.2

STR ANALYSIS OF DIRECT DRINKING MEASURES:
AVERAGE QUANTITY OF ALCOHOL CONSUMPTION

Effect	Summed Performance Over Time		Time Main Effect
Test of Overall Mean (Elevation)			MF = 2.14 df = 3,171 p < .097
	Group Main Effect	Individual Contrasts	Interaction of Slopes (Group Profiles)
Test of STR Group Differences Sample Size PMT: 57 TW : 59 HS : 60	F = 0.37 df = 2,173 p < .689		MF = 0.99 df = 6,342 p < .433

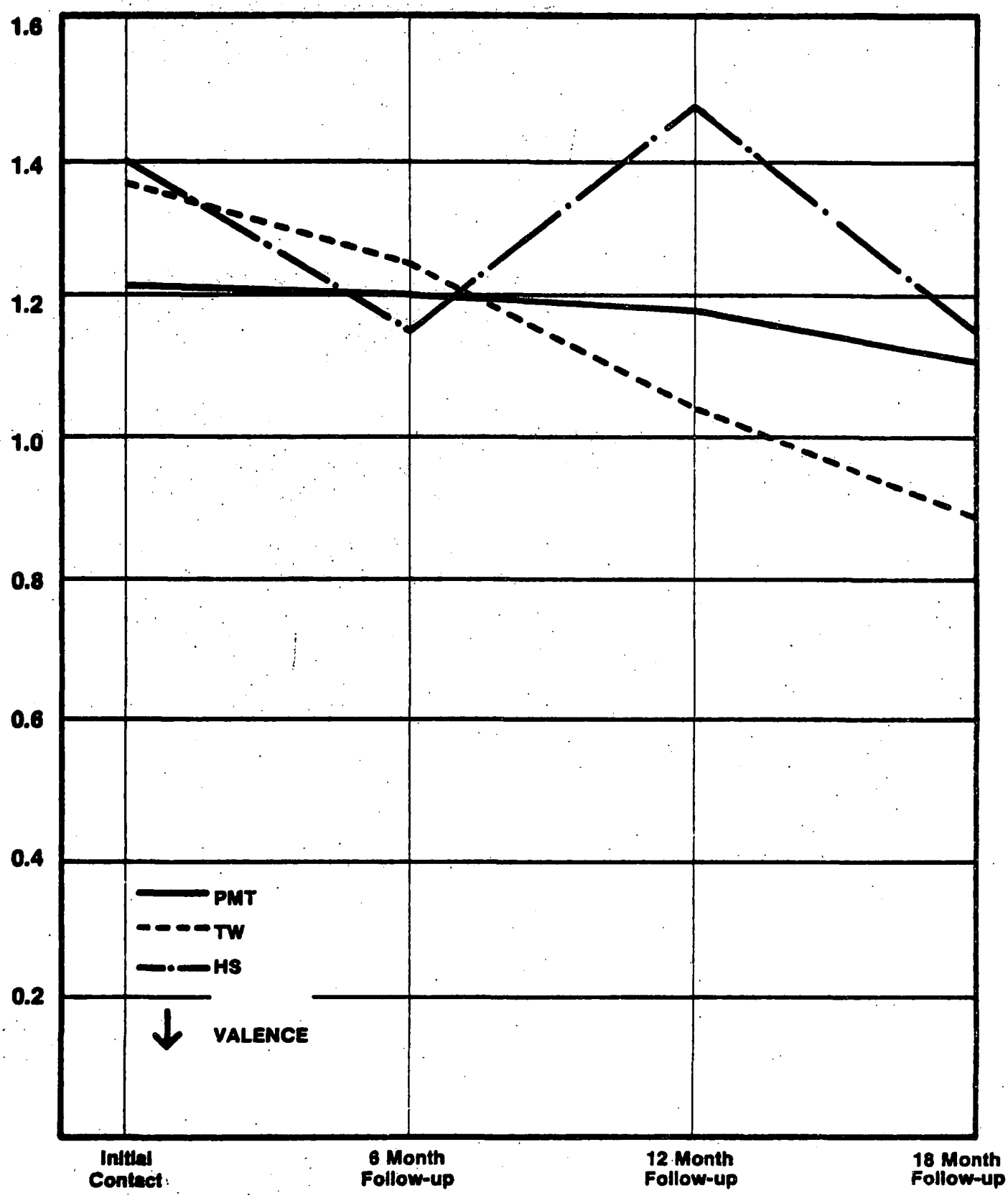

FIGURE 4.3
STR ANALYSIS OF DIRECT DRINKING MEASURES:
AVERAGE QUANTITY OF ALCOHOL CONSUMPTION

TABLE 4.3

STR ANALYSIS OF DIRECT DRINKING MEASURES: NUMBER OF DAYS ABSTINENT

Effect	Summed Performance Over Time		Time Main Effect
Test of Overall Mean (Elevation)			MF = 7.85 df = 3,169 p < .001
	Group Main Effect	Individual Contrasts	Interaction of Slopes (Group Profiles)
Test of STR Group Differences Sample Size PMT: 56 TW : 59 HS : 59	F = 1.40 df = 2,171 p < .250		MF = 0.96 df = 6,338 p < .452

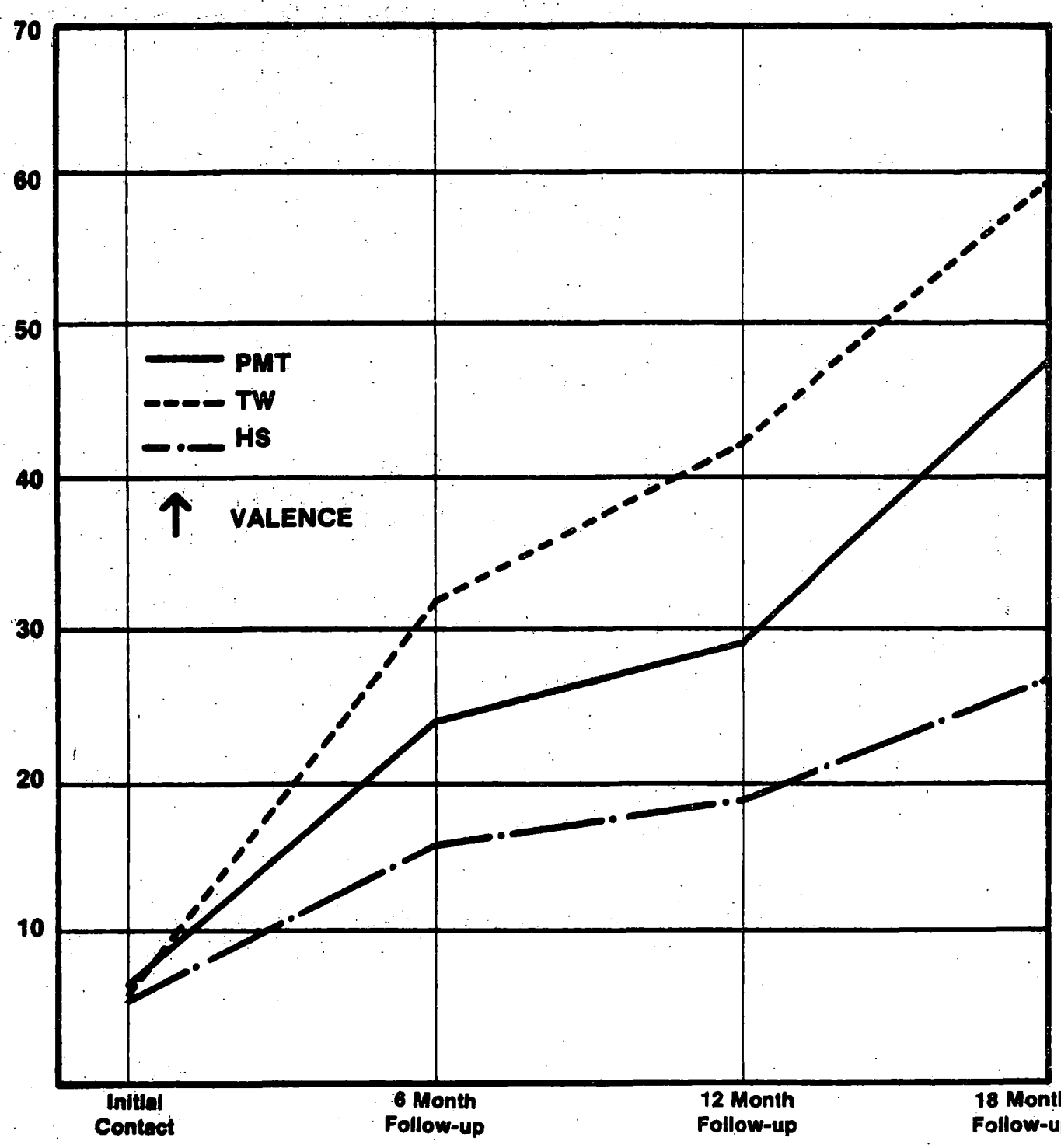

FIGURE 4.4

STR ANALYSIS OF DIRECT DRINKING MEASURES: NUMBER OF DAYS ABSTINENT

TABLE 4.4

STR ANALYSIS OF DIRECT DRINKING MEASURES: DRINKING BEHAVIOR

Effect	Summed Performance Over Time		Time Main Effect
Test of Overall Mean (Elevation)			MF = 17.33 df = 3,155 p < .001
	Group Main Effect	Individual Contrasts	Interaction of Slopes (Group Profiles)
Test of STR Group Differences	F = 0.63 df = 2,157 p < .533		MF = 0.68 df = 6,310 p < .664
<u>Sample Size</u> PMT: 50 TW : 55 HS : 55			

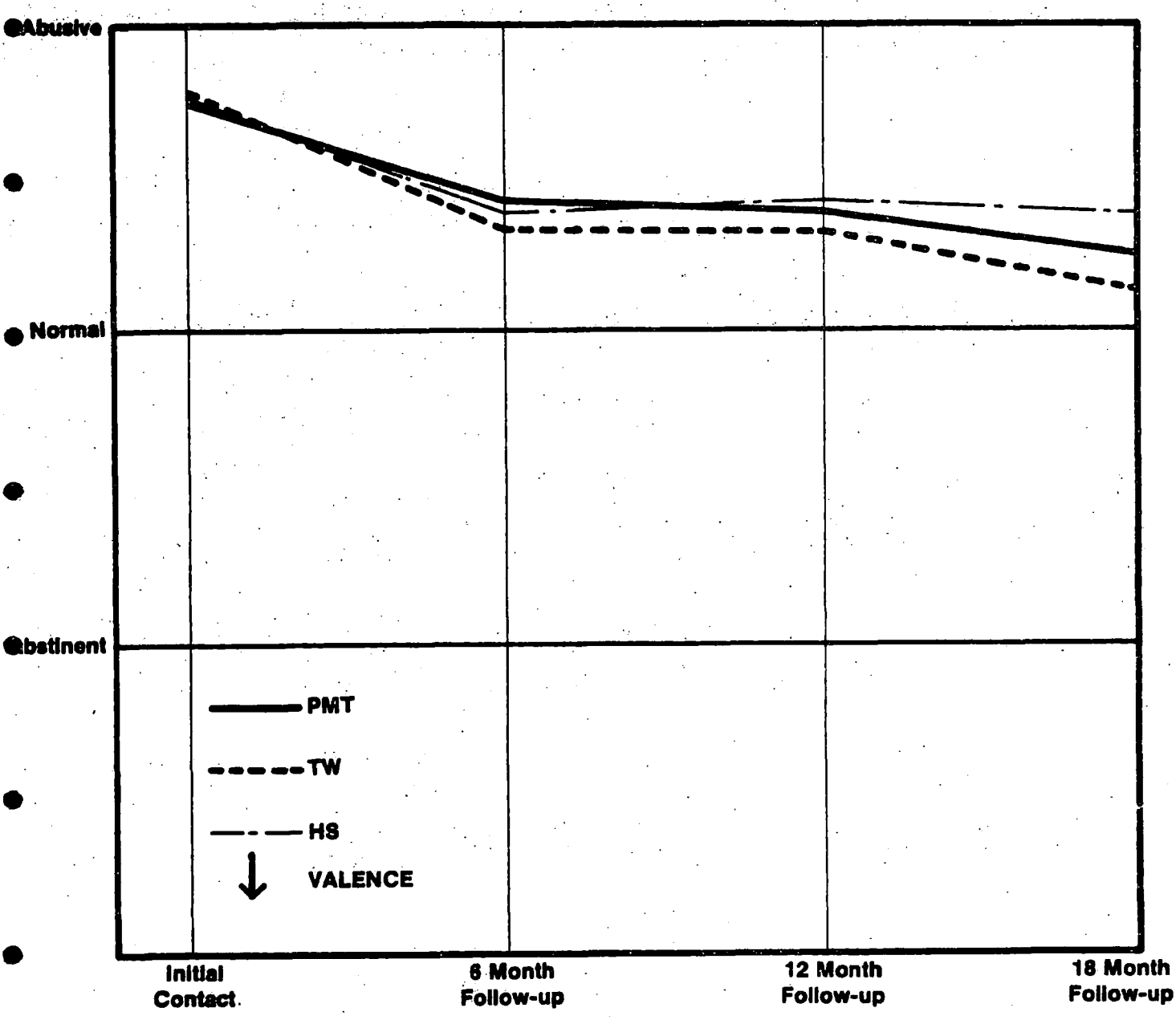

FIGURE 4.5
STR ANALYSIS OF DIRECT DRINKING MEASURES: DRINKING BEHAVIOR

TABLE 4.5

STR ANALYSIS OF LAI/CSQ SCALE 1:
CURRENT DRINKING PATTERN

Effect	Summed Performance Over Time		Time Main Effect
Test of Overall Mean (Elevation)			MF = 5.97 df = 3,171 p < .001
	Group Main Effect	Individual Contrasts	Interaction of Slopes (Group Profiles)
Test of STR Group Differences Sample Size PMT: 57 TW : 59 HS : 60	F = 0.52 df = 2,173 p < .594		MF = 0.82 df = 6,342 p < .556

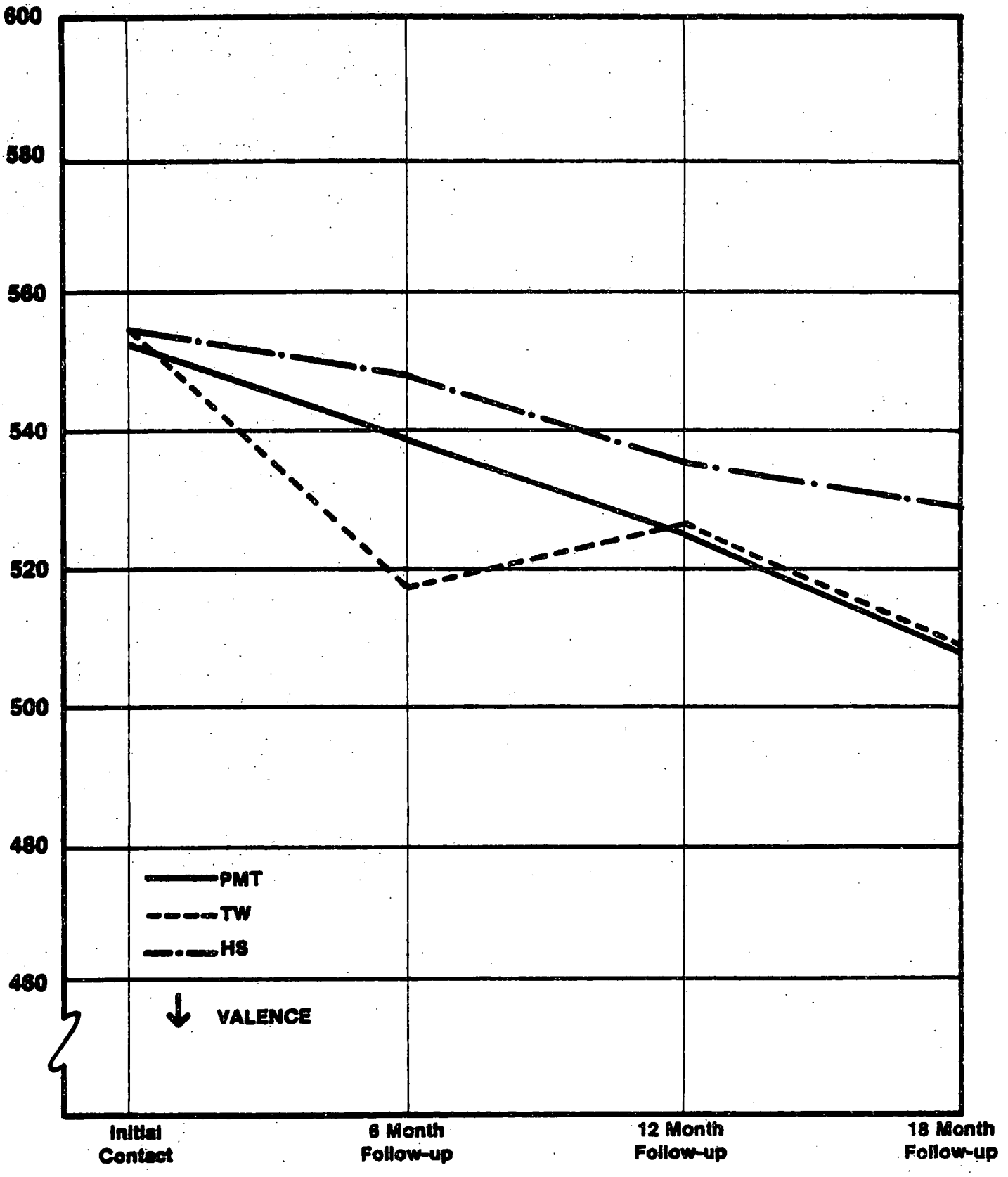

FIGURE 4.6
STR ANALYSIS OF LAI/CSQ SCALE 1:
CURRENT DRINKING PATTERN

TABLE 4.6

STR ANALYSIS OF LAI SCALE 2:
CURRENT QUANTITY/FREQUENCY OF ALCOHOL CONSUMPTION

Effect	Summed Performance Over Time		Time Main Effect
Test of Overall Mean (Elevation)			MF = 5.08 df = 3,171 p < .002
	Group Main Effect	Individual Contrasts	Interaction of Slopes (Group Profiles)
Test of STR Group Differences	F = 0.17 df = 2,173 p < .844		MF = 1.20 df = 6,342 p < .308
<u>Sample Size</u> PMT: 57 TW : 59 HS : 60			

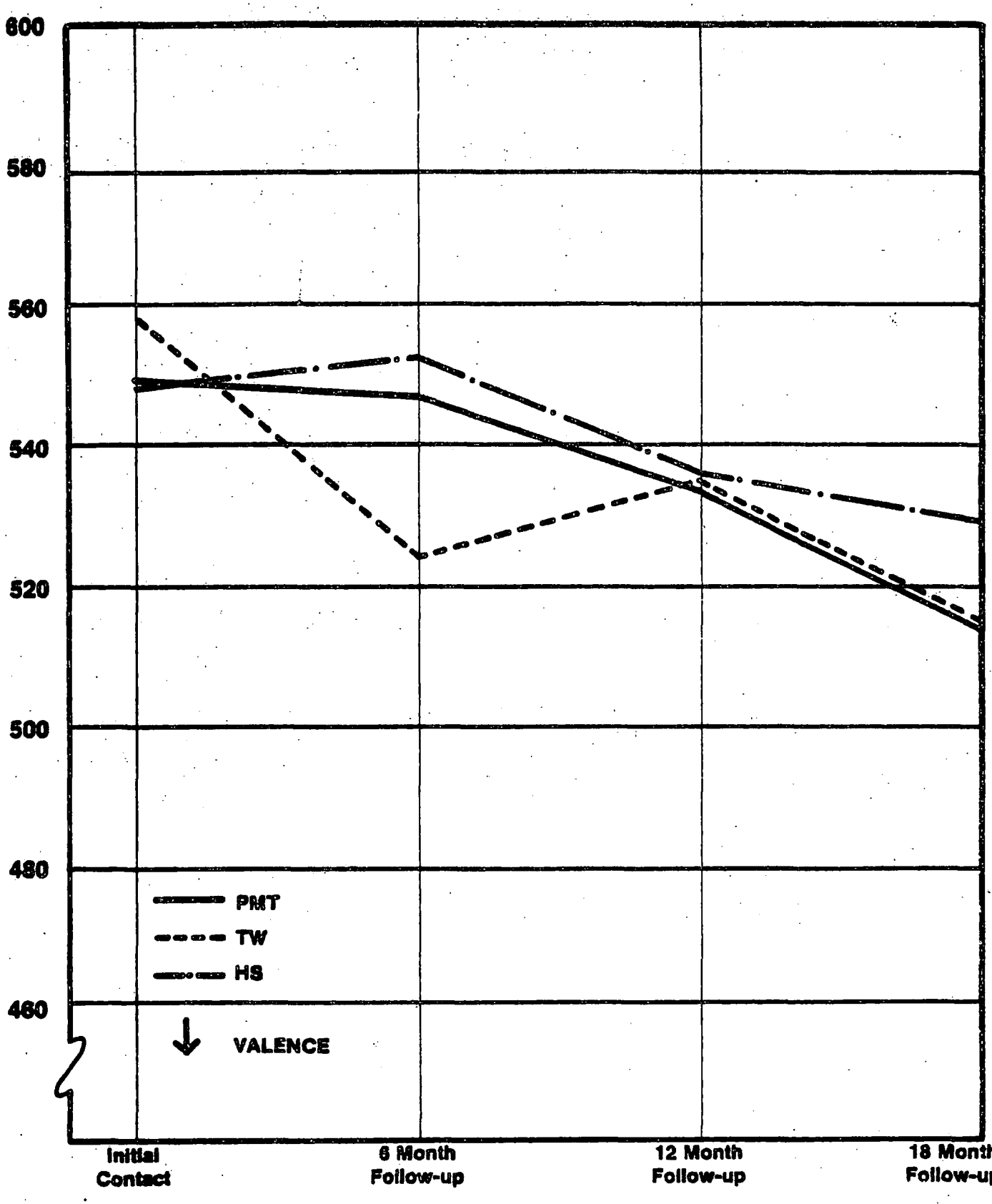

FIGURE 4.7
STR ANALYSIS OF LAI SCALE 2:
CURRENT QUANTITY/FREQUENCY OF ALCOHOL CONSUMPTION

TABLE 4.7

STR ANALYSIS OF LAI SCALE 6:
IMMODERATE DRINKING BEHAVIOR

Effect	Summed Performance Over Time		Time Main Effect
Test of Overall Mean (Elevation)			MF = 25.13 df = 3,171 p < .001
	Group Main Effect	Individual Contrasts	Interaction of Slopes (Group Profiles)
Test of STR Group Differences Sample Size PMT: 57 TW : 59 HS : 60	F = 0.13 df = 2,173 p < .874		MF = 0.98 df = 6,342 p < .438

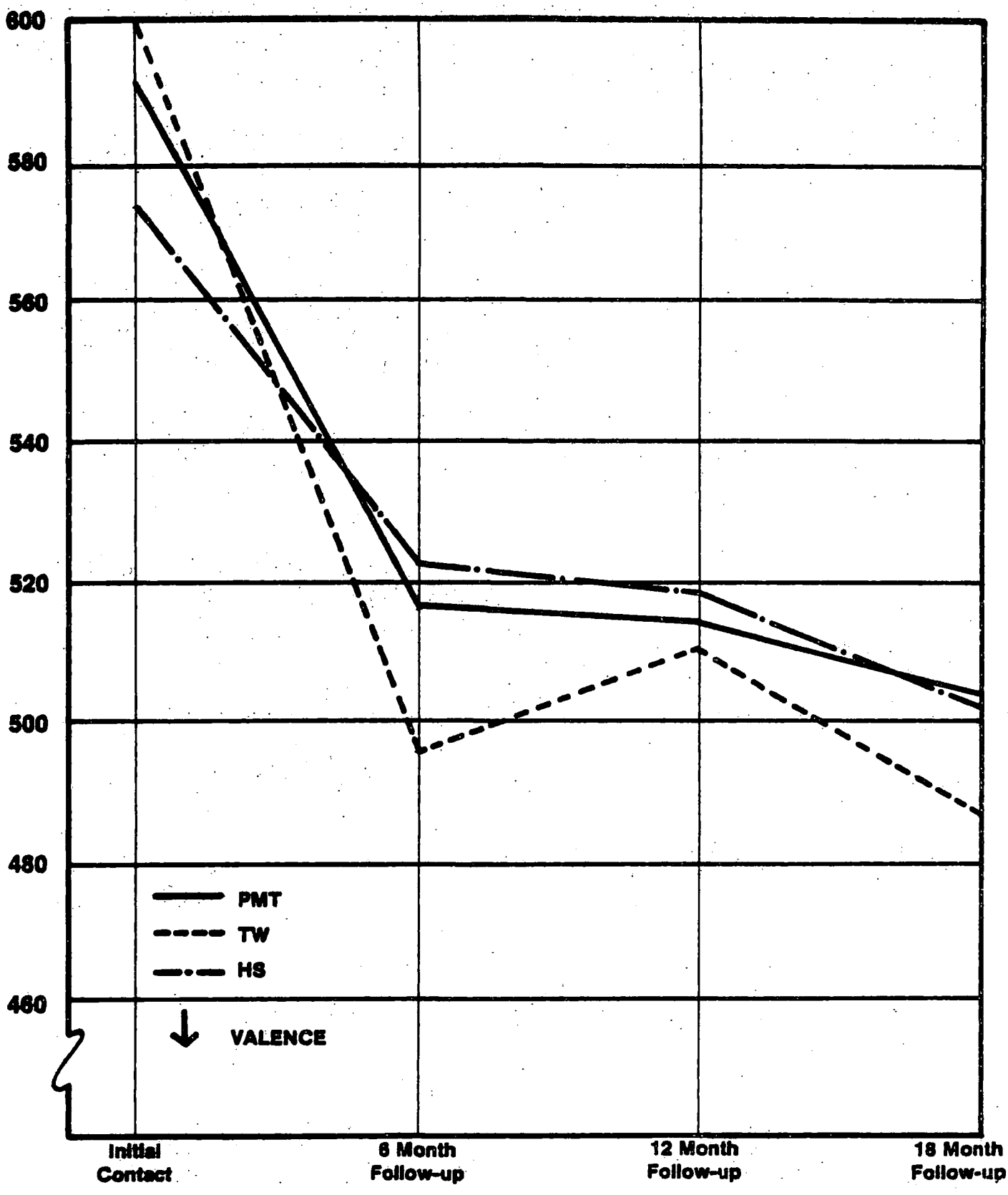

FIGURE 4.8
STR ANALYSIS OF LAI SCALE 6:
IMMODERATE DRINKING BEHAVIOR

TABLE 4.8

STR ANALYSIS OF LAI/CSQ SCALE 2: EMPLOYMENT/ECONOMIC STABILITY

Effect	Summed Performance Over Time		Time Main Effect
Test of Overall Mean (Elevation)			MF = 7.29 df = 3,171 p < .001
	Group Main Effect	Individual Contrasts	Interaction of Slopes (Group Profiles)
Test of STR Group Differences Sample Size PMT: 57 TW : 59 HS : 60	F = 3.12 df = 2,173 p < .047	TW vs. HS F = 4.49 df = 1,173 p < .036 PMT vs. HS F = 0.01 df = 1,173 p < .915	MF = 0.55 df = 6,342 p < .768

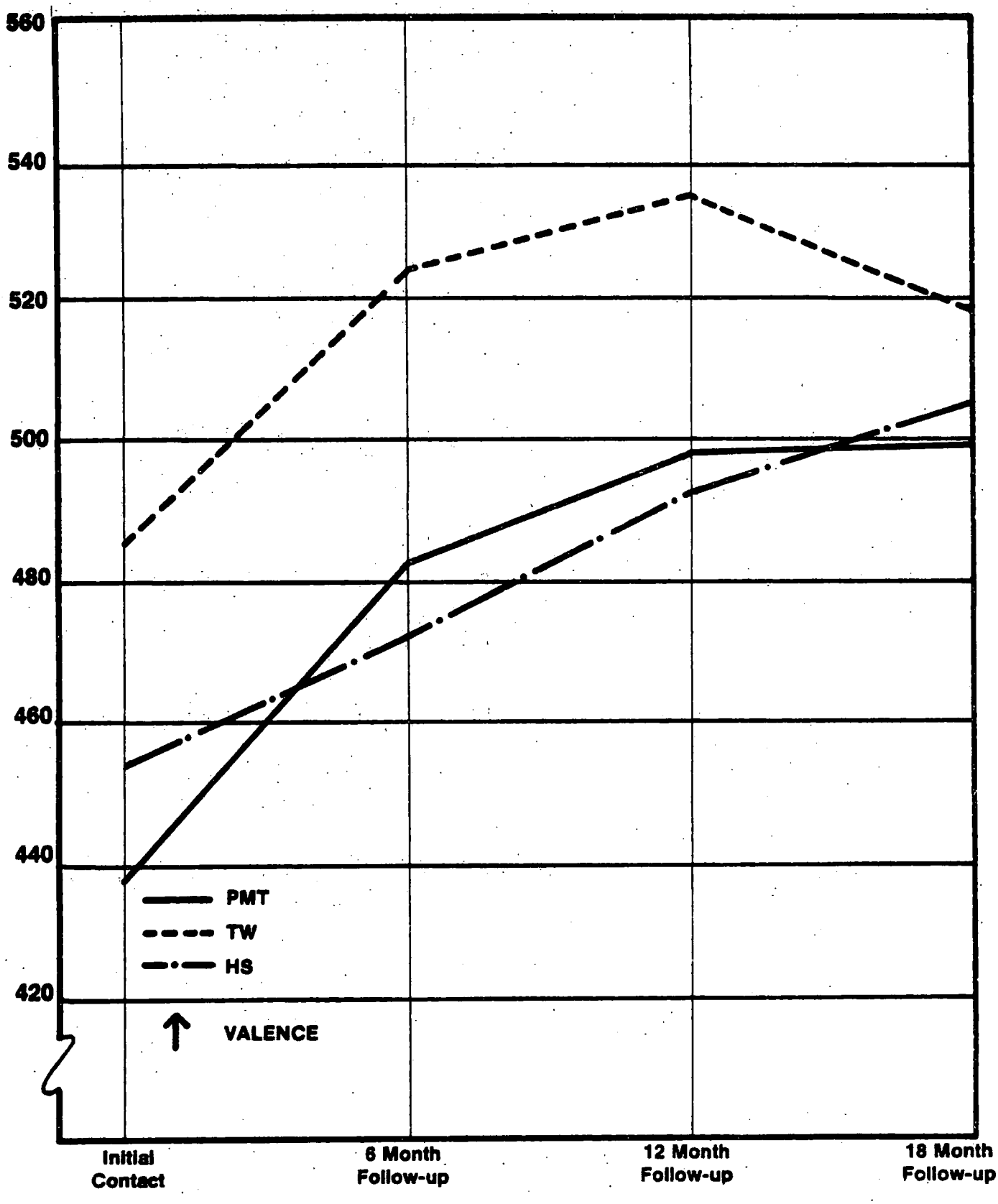

FIGURE 4.9
STR ANALYSIS OF LAI/CSQ SCALE 2:
EMPLOYMENT STABILITY/INCOME PRODUCTION

TABLE 4.9

STR ANALYSIS OF LAI/CSQ SCALE 3:
CURRENT PHYSICAL HEALTH PROBLEMS

Effect	Summed Performance Over Time		Time Main Effect
Test of Overall Mean (Elevation)			MF = 7.01 df = 3,171 p < .001
	Group Main Effect	Individual Contrasts	Interaction of Slopes (Group Profiles)
Test of STR Group Differences	F = 0.13 df = 2,173 p < .879		MF = 1.03 df = 6,342 p < .406
<u>Sample Size</u> PMT: 57 TW : 59 HS : 60			

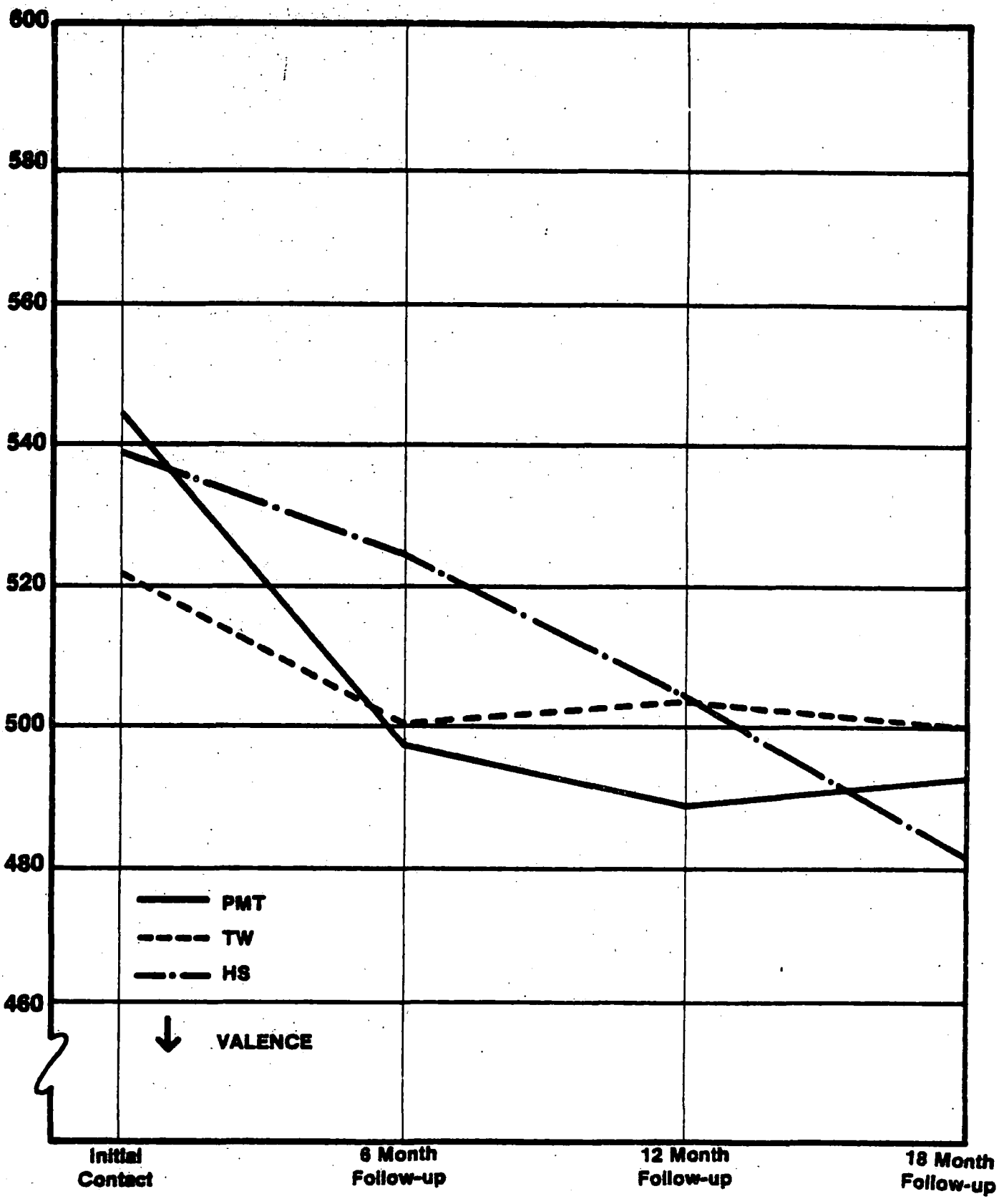

FIGURE 4.10
STR ANALYSIS OF LAI/CSQ SCALE 3:
PHYSICAL HEALTH PROBLEMS

TABLE 4.10

STR ANALYSIS OF LAI/CSQ SCALE 5: CURRENT DRINKING PROBLEMS

Effect	Summed Performance Over Time		Time Main Effect
Test of Overall Mean (Elevation)			MF = 28.33 df = 3,183 p < .001
	Group Main Effect	Individual Contrasts	Interaction of Slopes (Group Profiles)
Test of STR Group Differences Sample Size PMT: 62 TW : 63 HS : 63	F = 0.70 df = 2,185 p < .498		MF = 0.69 df = 6,366 p < .661

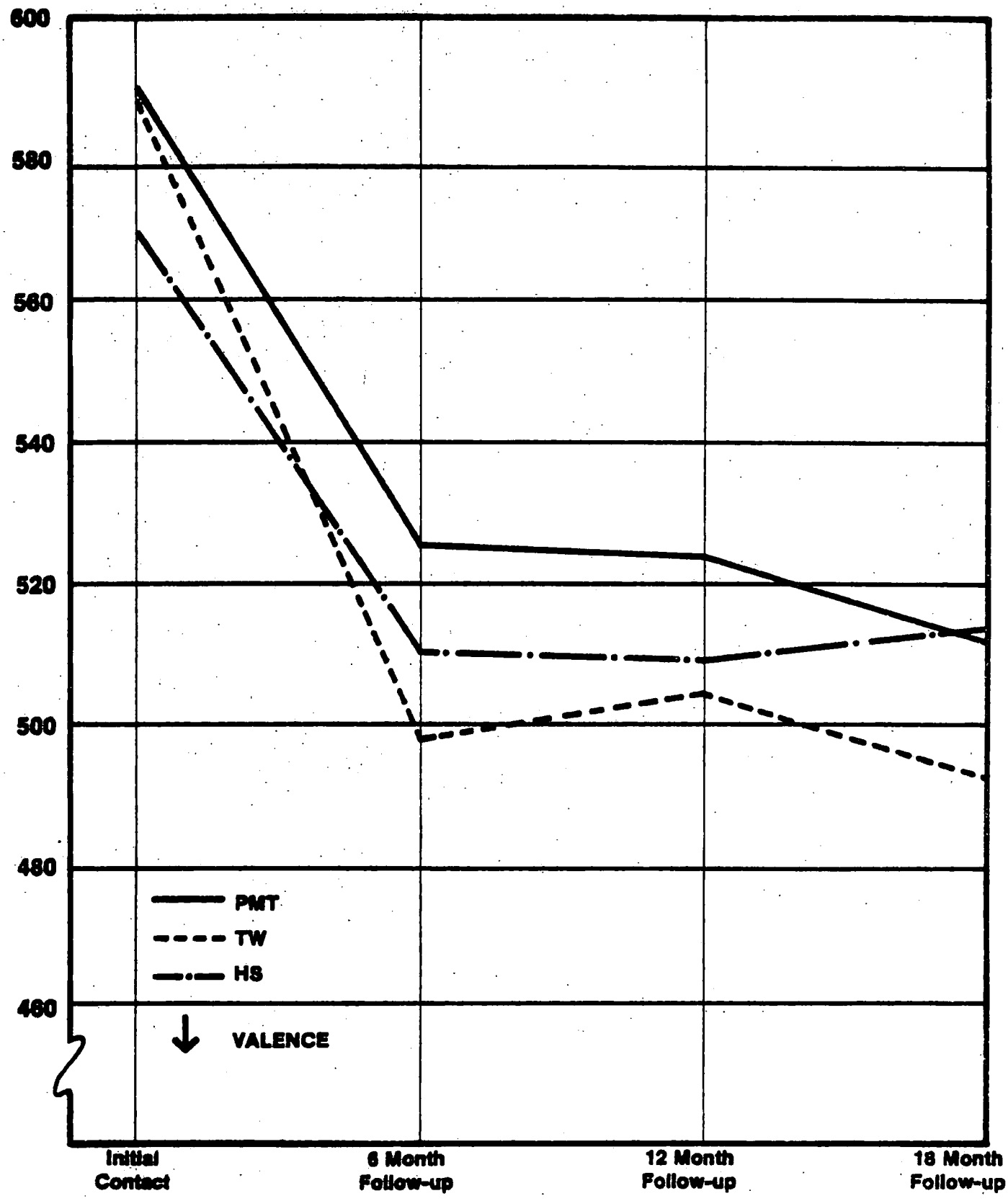

FIGURE 4.11
STR ANALYSIS OF LAI/CSQ SCALE 5:
CURRENT DRINKING PROBLEMS

TABLE 4.11

STR ANALYSIS OF CSQ SCALE 2: DRINKING PROBLEMS/REGULATION OF DRINKING

Effect	Summed Performance Over Time		Time Main Effect
Test of Overall Mean (Elevation)	[redacted]		MF = 11.19 df = 3,181 p < .001
	Group Main Effect	Individual Contrasts	Interaction of Slopes (Group Profiles)
Test of STR Group Differences Sample Size PMT: 62 TW : 61 HS : 63	F = 0.88 df = 2,183 p < .416		MF = 1.02 df = 6,362 p < .409

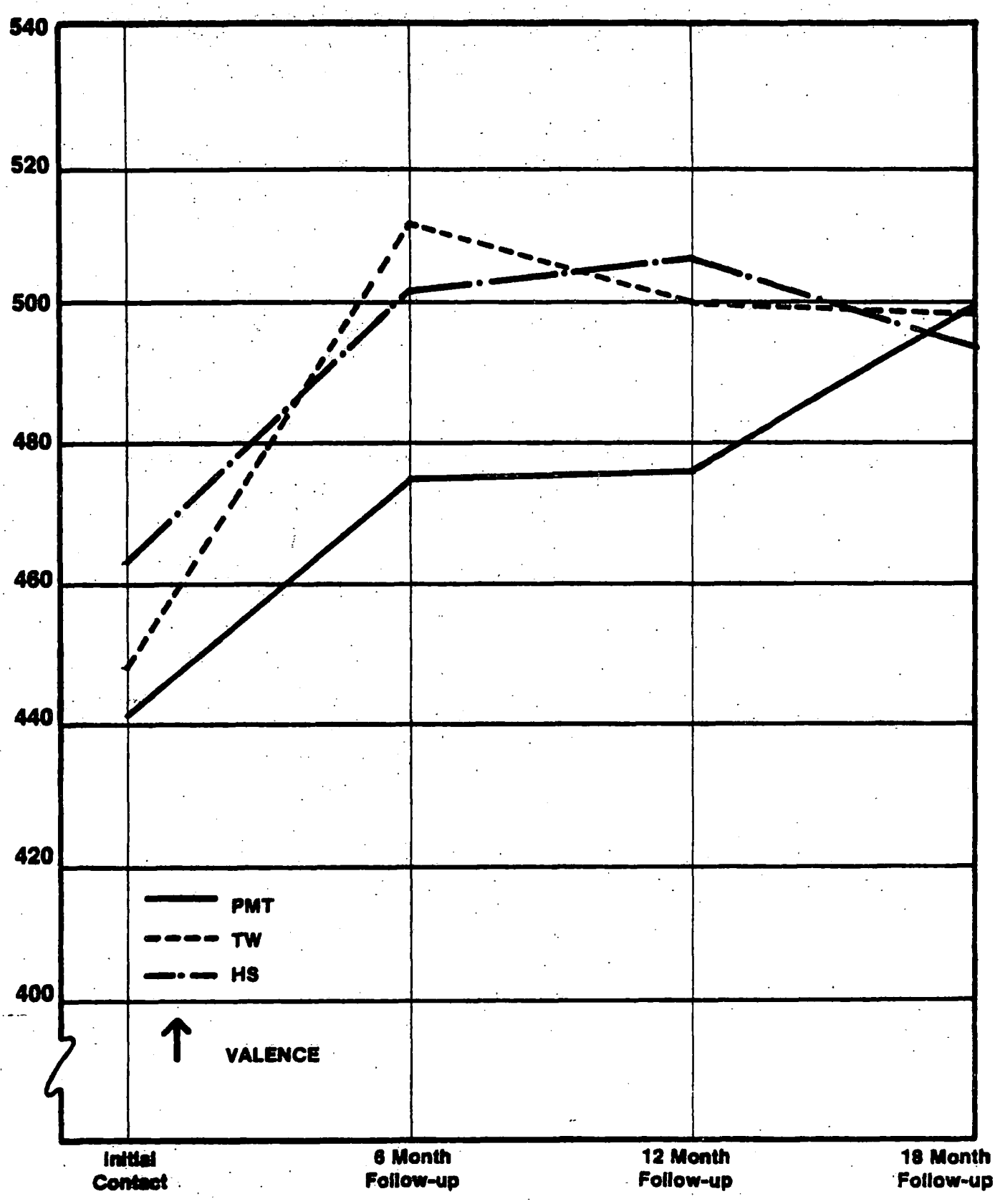

FIGURE 4.12
STR ANALYSIS OF CSQ SCALE 2:
REGULATION/CONTROL OF DRINKING PROBLEMS

TABLE 4.12

STR ANALYSIS OF PAS SCALE 2:
ANXIETY, DEPRESSION, TENSION

Effect	Summed Performance Over Time		Time Main Effect
Test of Overall Mean (Elevation)			MF = 5.62 df = 3,183 p < .001
	Group Main Effect	Individual Contrasts	Interaction of Slopes (Group Profiles)
Test of STR Group Differences Sample Size PMT: 62 TW : 63 HS : 63	F = 0.76 df = 2,185 p < .468		MF = 0.85 df = 6,366 p < .533

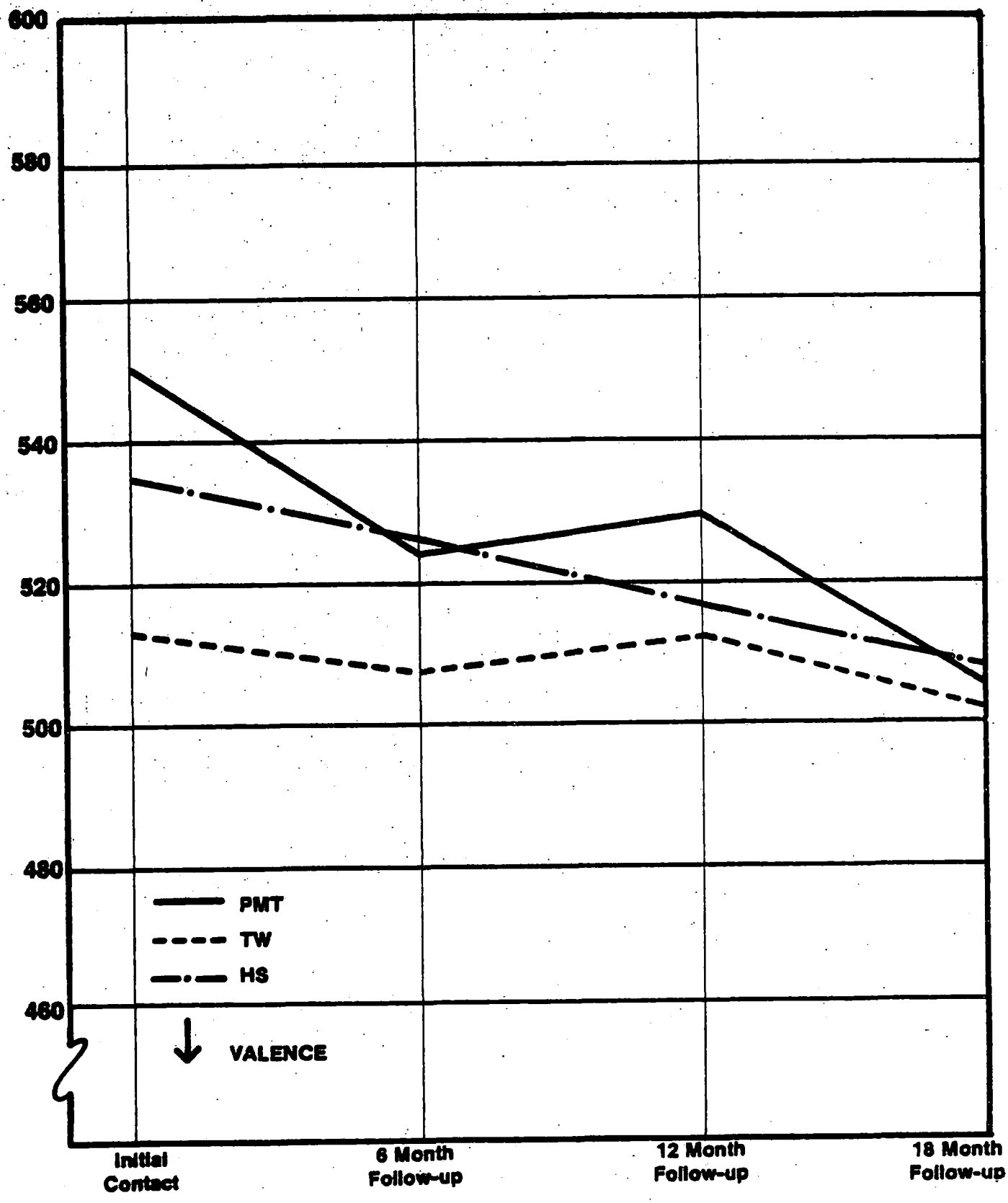

FIGURE 4.13
STR ANALYSIS OF PAS SCALE 2:
ANXIETY/DEPRESSION/TENSION

TABLE 4.13

STR ANALYSIS OF LAI/CSQ SCALE 4: SOCIAL INTERACTION

Effect	Summed Performance Over Time		Time Main Effect
Test of Overall Mean (Elevation)			MF - 3.70 df = 3,171 p < .013
	Group Main Effect	Individual Contrasts	Interaction of Slopes (Group Profiles)
Test of STR Group Differences Sample Size PMT: 57 TW : 59 HS : 60	F = 1.70 df = 2,173 p < .186		MF = 0.96 df = 6,342 p < .455

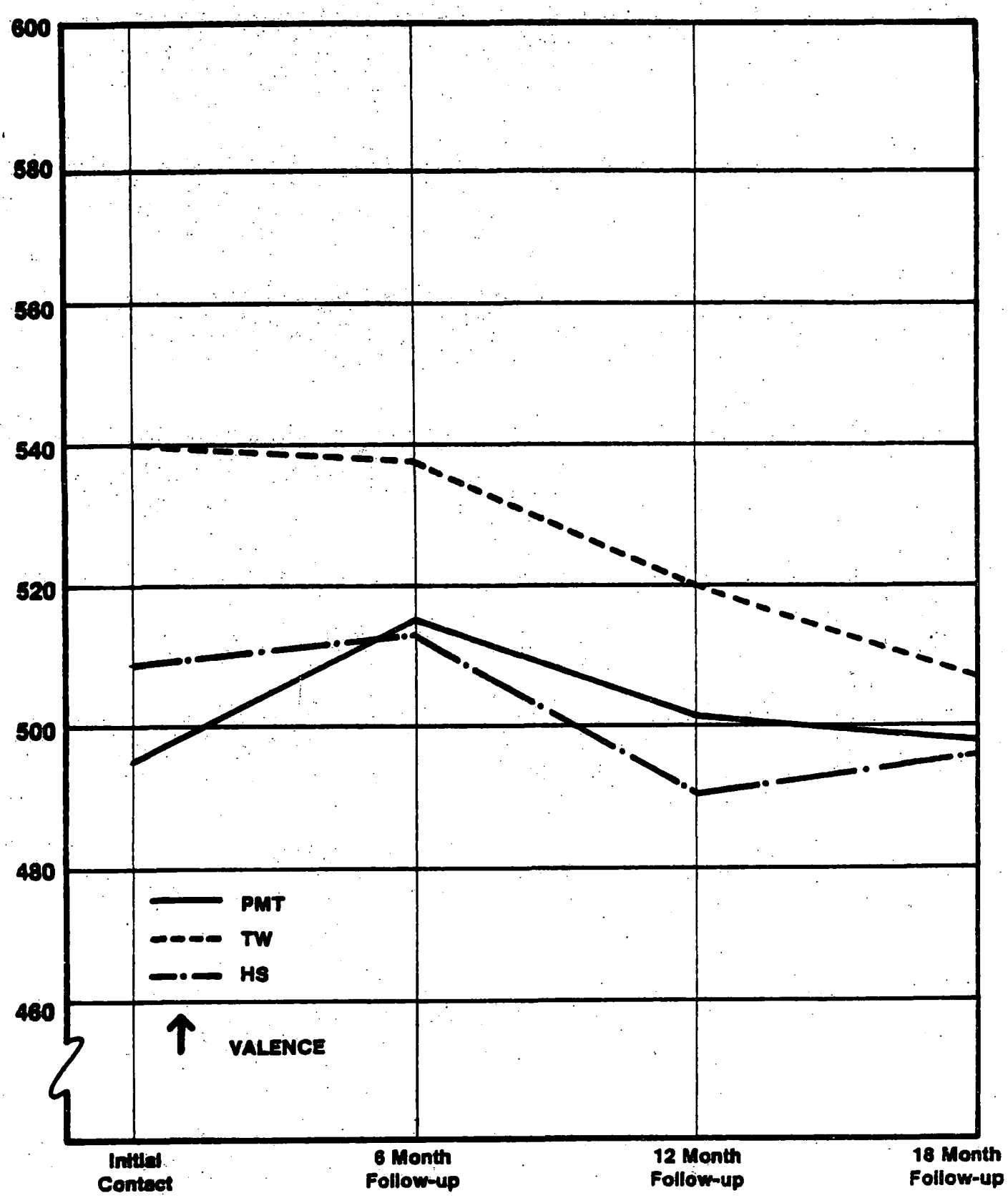

FIGURE 4.14
STR ANALYSIS OF LAI/CSQ SCALE 4:
SOCIAL INTERACTION

TABLE 4.14

STR ANALYSIS OF CSQ SCALE 1: MARITAL PROBLEMS

Effect	Summed Performance Over Time		Time Main Effect
Test of Overall Mean (Elevation)			MF = 3.39 df = 3,87 p < .022
	Group Main Effect	Individual Contrasts	Interaction of Slopes (Group Profiles)
Test of STR Group Differences Sample Size PMT: 35 TW : 31 HS : 26	F = 1.39 df = 2,89 p < .255		MF = 1.31 df = 6,174 p < .256

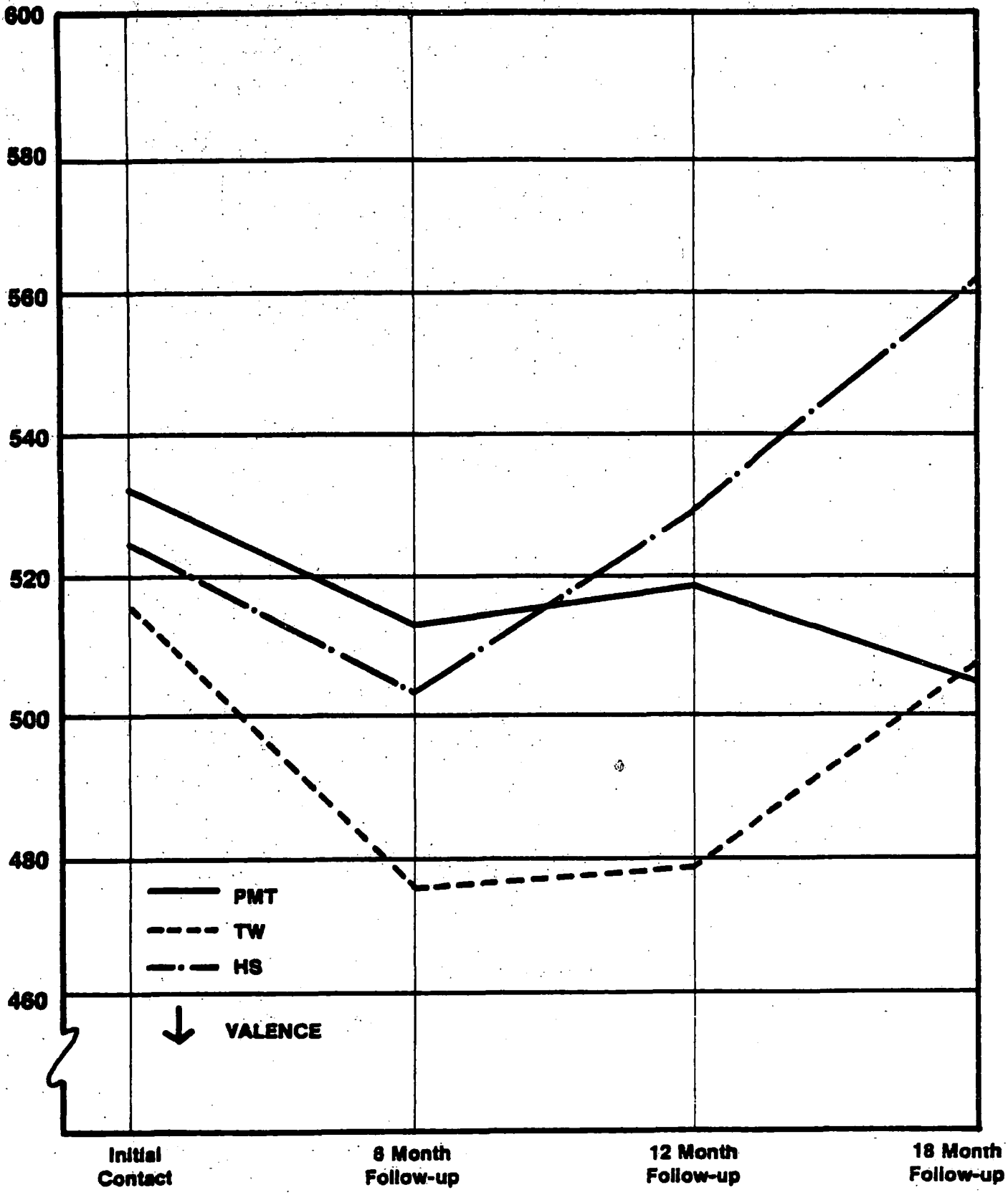

FIGURE 4.15
STR ANALYSIS OF CSQ SCALE 1:
MARITAL PROBLEMS

TABLE 4.15

STR ANALYSIS OF PAS SCALE 6: SELF-IMAGE

Effect	Summed Performance Over Time		Time Main Effect
Test of Overall Mean (Elevation)			MF = 0.80 df = 3,183 p < .493
	Group Main Effect	Individual Contrasts	Interaction of Slopes (Group Profiles)
Test of STR Group Differences Sample Size PMT: 62 TW : 63 HS : 63	F = 0.19 df = 2,185 p < .825		MF = 0.52 df = 6,366 p < .797

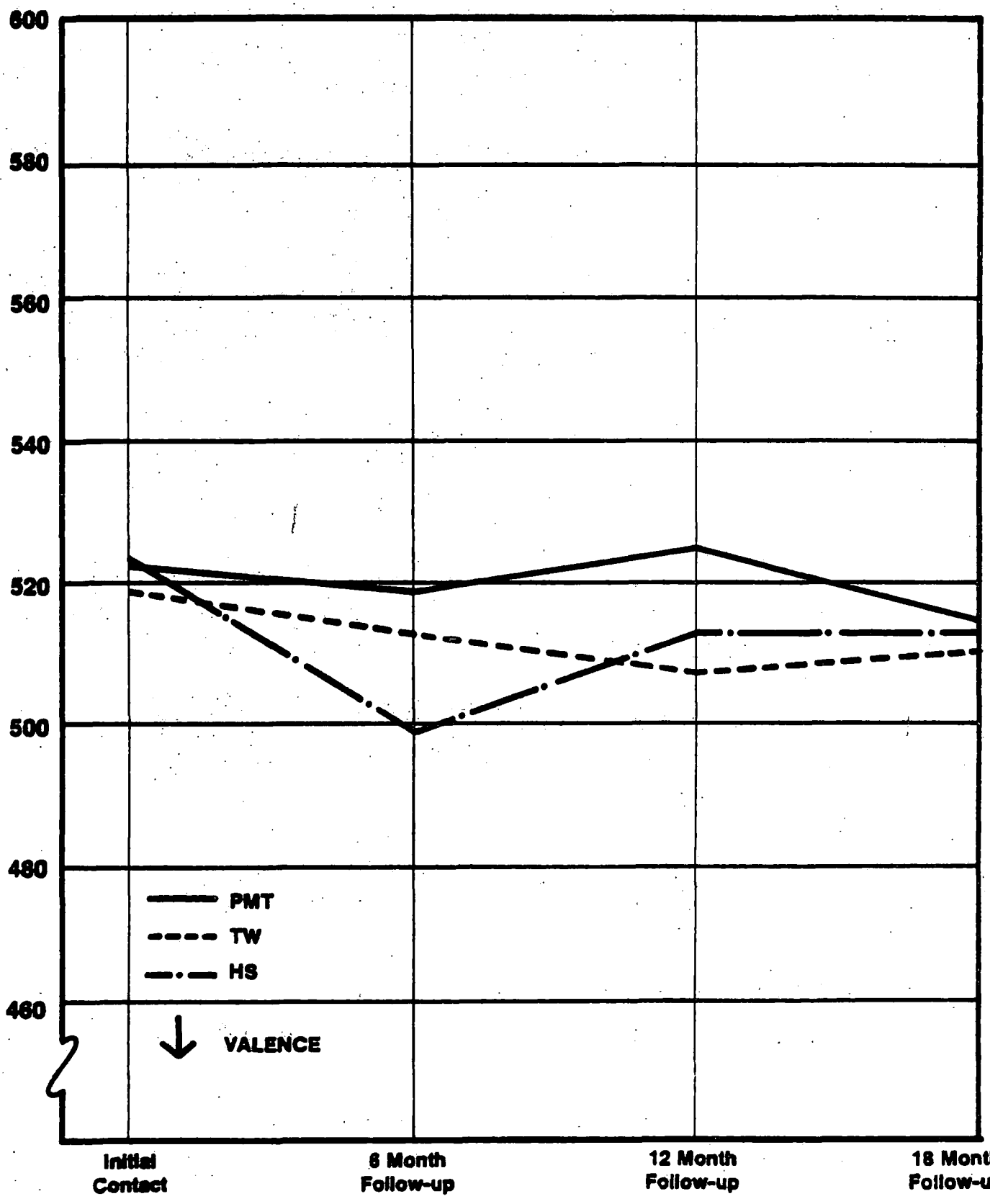

FIGURE 4.16
STR ANALYSIS OF PAS SCALE 6:
SELF-IMAGE

5. ANALYSIS OF DWI ARREST RECIDIVISM

5.1 RATIONALE

A comparative analysis of DWI arrest recidivism is employed in this section to update the evaluation of treatment effectiveness contained in last year's Final Report. Since the City's various rehabilitation programs are designed to reduce the probability of subsequent drinking-driving behavior, recidivism indirectly measures effectiveness by determining how many clients fail to respond to treatment and receive a repeat DWI citation. A more direct approach would relate treatment exposure to any subsequent DWI behavior, including the vast majority of incidents not detected by police. Since it is obviously not feasible to observe people continuously, however, arrest statistics are the next most direct measure. Conviction records were not used, since most DWI arrests in Phoenix resulted in a case dismissal brought about by widespread plea bargaining.

Another approach to evaluation of rehabilitation effectiveness would relate treatment exposure to subsequent alcohol-related crash involvement, since this was the ultimate objective of the ASAP. Unfortunately, accident data could not be accurately related to individual clients. Even if this were possible, it is improbable that enough observations could be accumulated to conduct meaningful statistical tests of significance between treatment and comparison groups.

Recidivism possesses certain inherent advantages as a measure of rehabilitation effectiveness. The major advantage is that actual behavior is measured. Knowledge, attitude and opinion questionnaires suffer greatly by comparison, since people may claim to have changed when they have not. Another positive feature is that persons exposed to different treatments are subject to the same level of DWI enforcement, and therefore have an equal chance for apprehension if they continue to drink and drive. Paper and pencil tests, on the other hand, are subject to extraneous influences, such as differences in test administration procedures.

The major disadvantage is that recidivism may be too insensitive a measure to detect small treatment differences, especially when exposure periods or sample sizes are small. Fortunately, this disadvantage is partially removed through the statistical method used in the analysis. Another disadvantage of the recidivism measure is that the probability of detecting continued DWI behavior is in reality quite low. The probability drops even further in the present analysis, since the person must be rearrested within the City limits in order

to be counted. (Arrest data from other jurisdictions could not be reliably collected.) Fortunately, this limitation was overcome by assigning persons to treatment randomly, that is, without regard to factors which might affect the probability of subsequent DWI detection. Therefore, while the overall recidivism rate may be understated to some unknown degree, the proportion of recidivists among randomly assigned groups should accurately reflect treatment effects.

5.2 METHOD

a. Date Source. Data were obtained from the ASAP master file of DWI records through a complex program written at the City's computer center. Recidivist frequencies were plotted by quarter of occurrence and previously-entered treatment modality. Only DWI arrests adjudicated in City Court were used. Entry date for index (first) arrest was based on month and year of rehabilitation screening. The recidivism incident was based on the month and year of rearrest.

Several features were incorporated into the computer program to make the evaluation of treatment effectiveness as fair as possible. First, a rearrest in the same month as rehabilitation entry was not counted, since the time lag to begin treatment was at least that long. This procedure also eliminated as a recidivism incident, those cases where two or more DWI citations were combined into one rehabilitation entry. Similarly, a person entering rehabilitation as a result of an old (but still active) citation was not counted if he had been rearrested in the intervening period between the index violation date and the current rehabilitation entry date. (This situation occasionally occurred for persons arrested while on bench warrant for an older citation.) An individual was counted as a recidivist only once against any given treatment. This means that if a person was rearrested more than once without any additional rehabilitation exposure, the treatment was charged with just one recidivism incident. If additional treatment was given, the second rearrest was charged against the more recent treatment. Finally, a person was counted as entering treatment only if the entire course of rehabilitation was completed. It was felt that restricting the analysis to persons who completed their assignment would enhance detection of subtle differences between treatments.[23]

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[23]The interested reader should refer to last year's Final Report for results of an analysis which counted all rehabilitation referrals, including those who failed to enter or dropped out of treatment.

b. Analysis. The technique selected for use, survival rate analysis, was borrowed from the field of medical pathology, where survival has long been used as a criterion for measuring the effectiveness of cancer therapy.[24] The analogy between the evaluation of cancer therapy in terms of patient survival and the evaluation of DWI rehabilitation in terms of client survival is relatively straightforward: a particular program of rehabilitation is viewed as more efficacious if clients exposed to it experience a significantly lower rearrest rate than clients exposed to alternative programs. Survival rate, therefore, is simply one minus the recidivism rate.

The method has the advantage of using recidivism data for persons with follow-up for less than the total time being considered. Follow-up refers to the amount of elapsed time in which an individual has the chance of becoming a recidivist.

Follow-up was measured from quarter of entry to the end of the last complete quarter for which recidivism data were available (June, 1978). Thus, a person entering treatment in June, 1975 is included with three years' follow-up, while someone entering in June, 1972 is included for the entire six-year period.

The method assumes that the survival experience of persons with shorter follow-up is similar to that of persons remaining under follow-up. This procedure lowers the standard error, thereby increasing the accuracy of estimating the actual survival rate. The net gain is a more powerful t-test used to determine the statistical significance between survival rates at each follow-up period.

Summary tables show the cumulative survival rate, effective sample size, standard error and the t-test value for paired comparisons. All p values assume two-tailed tests. The signs of the t-tests are arbitrary, in the sense that they are due simply to the order of subtraction of the two cumulative survival rates being compared. They are not arbitrary, in that the order of subtraction within a single comparison does not change. That is, a change in the sign of the t statistic indicates a reversal in the relative position of the two rates being compared. Degrees of freedom for all comparisons was computed as the sum of the effective sample sizes minus two.

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[24] Sidney J. Cutler & Fred Ederer, "Maximum Utilization of the Life Table Method in Analyzing Survival," Journal of Chronic Diseases, 8, No. 6 (December, 1958), 699-711.

c. Treatment Comparisons.

(1) Phoenix DWI School.[25] Everyone (regardless of drinker type) referred to rehabilitation between January, 1972 and June, 1974 was randomly assigned to one of four groups administered by Arizona State University: 60% attended a four-session ten-hour lecture course; 20% attended a one-session, 2-1/2 hour presentation based on the four-session curriculum; 15% were given the same take-home literature that was distributed to the above two groups, but attended no lectures; and 5% were assigned to a control group which did not attend lectures or receive literature. (Sessions were also conducted in Spanish on a nonrandom basis for those clients requesting them; these cases were excluded from the analysis.)

Each of the three treatment groups was compared to the control. The hypothesis was that treatment survival would be significantly higher than that shown for the control group. Comparisons among the three treatment groups were also carried out to assess the effect of alternate treatment formats on subsequent survival. Data were not analyzed by drinker classification because clients were not referred to the DWI School on the basis of problem or social drinker diagnosis, nor was this treatment specifically designed for individuals with particular levels of drinking problem severity or identifiable personal characteristics. Completion was defined as attendance at all sessions plus a second data collection meeting for the four-session and one-session groups, or as picking up the take-home pamphlets for the literature group. The control group had no attendance requirements beyond the initial data collection testing session.

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[25]The four-session DWI School was a prototype program for hundreds of communities in this country and others. See Ernest I. Stewart and James L. Malfetti, Rehabilitation of the Drunken Driver: A Corrective Course in Phoenix, Arizona for Persons Convicted of Driving Under the Influence of Alcohol (New York: Columbia University Teacher's College Press, 1970).

(2) Alcohol Awareness Programs. Examined next were a number of modalities instituted following the termination of the Phoenix DWI School in mid 1974.

DWI Prevention Workshops, a four-session, ten-hour program designed for social drinkers, used a semi-structured group process to impart information concerning alcohol and its effect on driving and interpersonal relationships. Completion was defined as attendance at all four sessions.

DWI Therapy Workshops, a six-session, 15-hour program (plus exit/evaluation interview) designed for problem drinkers, included educational aspects, but emphasized small group interaction and confrontation to develop personal awareness. Completion was defined as attendance at all six sessions plus the exit interview.

Power Motivation Training, a 32-hour program designed for problem drinkers, employed a series of experiential exercises to give participants feedback on their level of risk taking, strategies of goal setting and quality of interpersonal communication in stressful situations. Completion was defined as attendance at all four days of meetings.

Between April and December of 1975, following initial drinker screening, approximately 80% of the referral population were randomly assigned to treatment, while 20% were selected for the Home Study Course, a minimal exposure condition consisting solely of written materials. Completion for the Home Study Course was defined as returning the take-home assignments. Analyses were restricted to persons entering treatment during the last three quarters of 1975 when random assignment procedures were in effect.

Each of the three major Alcohol Awareness Programs was compared with its corresponding Home Study Course group. The hypothesis was that treatment survival would be greater than that shown for the corresponding minimal exposure groups. Data were aggregated across computer-defined drinker types since referral to

any of the three treatment modalities was based exclusively on problem or social drinker diagnosis.

(3) DWI School v. Alcohol Awareness Programs. Differences in cumulative survival between the DWI School and the Alcohol Awareness Programs were also assessed. The hypothesis was that survival would be greater for the new programs. The two randomly assigned samples tracked in this analysis were carefully selected to insure comparability of results. Since the four-session group represented the original program which would be expected to continue in the absence of an ASAP evaluation design, this modality was chosen to represent the old rehabilitation system. Persons who received an additional referral were included to make this group more comparable to the new system.

Chosen to represent the Alcohol Awareness Programs were the three randomly assigned modalities which were utilized most often (DWI Prevention Workshops, DWI Therapy Workshops, Power Motivation Training). Problem and social drinkers were found in each group, and persons who received additional treatment were included in the analysis.

5.3 RESULTS

a. DWI School Groups. Cumulative survival rates for the four DWI School groups are presented in Table 5.1 and Figure 5.1. Statistical testing revealed that survival for the no-treatment control was significantly lower than that shown for either the one-session or literature groups. Inspection of the table indicates that the four-session and control group curves were significantly different at Q2, 21 and 23 after entry, but not different at any of the other intervals tested. This suggests only a marginal difference in these groups' survival rates. Differences in survival rates among the three DWI School treatment groups were not statistically significant, with the exception that the literature group experienced significantly higher survival than the four-session school at ten of the intervals tested. Survival after six years (24 quarters) was highest for the literature group (73.6%), followed by the one-session (73.0%), four-session (72.3%) and control (66.1%) groups.

b. Alcohol Awareness Programs. Cumulative survival rates for diagnosed social drinkers referred to Prevention Workshops or Home Study are compared in Table 5.2 and Figure 5.2. The two modalities were virtually identical, differing by less than 1% at all intervals tested. Survival after three years was slightly higher for Prevention Workshops (85.3%) compared to Home Study (84.7%), but statistical testing indicated that the two curves were not significantly different at any of the periods following entry. Observed differences were well within limits of chance variation.

Cumulative survival rates for diagnosed problem drinkers assigned to Therapy Workshops or Home Study are compared in Table 5.3 and Figure 5.3. The two modalities were very similar, differing by less than 1% at most quarters following entry. After three years, Therapy Workshops had a survival rate of 76.9% compared to 74.9% for Home Study, but statistical testing confirmed that survival rates were not significantly different at any of the periods following treatment exposure.

Cumulative survival rates for diagnosed problem drinkers referred to Power Motivation Training or Home Study are compared in Table 5.4 and Figure 5.4. Survival rates for these two modalities were more variable than the previous two comparisons because of the relatively small effective sample sizes. This produced larger standard errors, resulting in no significant differences between the two curves, despite the apparent discrepancies shown in the graph. After three years, PMT had a survival rate of 83.3% compared to 84.4% for Home Study, a difference of only 1.1%.

Cumulative survival rates summed across diagnosed problem and social drinker categories are shown in Table 5.5 and Figure 5.5 as a means of summarizing the data from the three previous comparisons. Once again, it can be seen that survival rates were highly similar, indicating a general lack of any discernible treatment effects attributable to participation in an Alcohol Awareness Program. Differences were extremely small considering the large effective sample sizes, ranging between 0.2% and 1.0% across the 12 quarters. As with the individual comparisons, none of these differences was statistically significant.

c. Alcohol Awareness Programs v. DWI School. Table 5.6 and Figure 5.6 present cumulative survival rates for the direct comparison between the Alcohol Awareness Programs and the DWI School. Alcohol Awareness Program data represent randomly assigned groups (PW, TW and PMT) entering treatment between April and December, 1975. DWI School data are for the randomly assigned four-session group entering treatment between January,

1972 and June, 1974. Somewhat higher survival was achieved by persons exposed to an Alcohol Awareness Program (83.0% v. 80.2% after three years), with a small, but discernible trend toward a larger spread as time after entry increases. Small percentage differences attained statistical significance due to the very large effective sample sizes.

5.4 DISCUSSION

Results of the comparison of DWI School groups give a fairly clear indication that some form of treatment intervention produced higher survival than no treatment at all. Furthermore, it would appear that a one-session group or educational literature reduced recidivism at least as much, if not more, than four sessions of the DWI School.

The inferior performance of the four-session group is difficult to reconcile. Intuitively, one might expect treatment effectiveness to manifest itself in direct relation to the length of exposure, especially since the substance of the one-session and literature groups was based on the four-session curriculum. It does not appear justified to explain the results on the basis of selection bias, not only because problem and social drinkers were referred to each group, but because groups were randomly assigned. A check on the profile of persons completing the DWI School revealed no significant differences between groups on the variables of sex, age, origin, occupation, method of BAC testing or arrest BAC reading. In light of these considerations, no alternative explanation for the results can be supported.

Results for the three Alcohol Awareness Programs are most noteworthy for the marked similarity in survival rates which was observed at every time period following treatment entry. No differences were found to indicate that short-term treatment had more of an impact on rearrest experience than minimum-exposure. These findings are viewed with confidence since persons were randomly assigned to treatment. Furthermore, a check on client profiles confirmed that random assignment had the desired effect of controlling between group differences, at least as far as the variables of sex, age, origin, occupation, method of BAC testing, arrest BAC reading and type of DWI handling are concerned.

One encouraging finding was that the randomly assigned Alcohol Awareness Programs had a higher survival rate than the four-session DWI School. Unfortunately, interpretation of this result is confounded by the fact that survival data for this comparison represent different, and to a great extent, nonoverlapping time frames. The problem is not so much with

differences in follow-up periods, but with potential changes in other variables across time which could affect recidivism (e.g., different arrest intensities or referral populations). In any case, the difference in favor of the newer programs was just 2.8% after three years. This improvement, while statistically significant because of the large sample sizes involved, is of questionable practical importance.

Based on the survival rate analysis of DWI arrest recidivism contained in this section, the conclusion stated in last year's Final Report bears repeating: none of the short-term Alcohol Awareness Programs appears to have been very effective.

TABLE 5.1

CUMULATIVE SURVIVAL RATES FOR
FOUR DWI SCHOOL GROUPS
BY QUARTER OF ENTRY
(QS - Q12)

Cumulative Survival Rate	S	1	2	3	4	5	6	7	8	9	10	11	12
Four-Session	98.9	95.5	93.4	91.2	89.2	87.6	86.2	85.0	83.7	82.4	81.3	80.2	79.1
One-Session	98.7	96.0	93.6	91.8	90.2	89.2	88.0	86.6	85.0	83.5	82.3	81.1	80.2
Literature	98.9	97.3	94.8	92.7	91.4	90.4	89.4	88.0	86.7	85.5	84.5	83.2	81.7
Control	98.6	93.5	89.5	88.4	86.2	84.4	82.6	81.2	79.3	78.3	77.5	76.8	75.7
Effective Sample Size													
Four-Session	4581	4581	4581	4581	4581	4581	4581	4581	4581	4581	4581	4581	4581
One-Session	1362	1362	1362	1362	1362	1362	1362	1362	1362	1362	1362	1362	1362
Literature	1084	1084	1084	1084	1084	1084	1084	1084	1084	1084	1084	1084	1084
Control	276	276	276	276	276	276	276	276	276	276	276	276	276
Standard Error													
Four-Session	.0015	.0030	.0037	.0042	.0046	.0049	.0051	.0053	.0055	.0056	.0058	.0059	.0060
One-Session	.0031	.0053	.0066	.0074	.0080	.0084	.0088	.0092	.0097	.0101	.0103	.0106	.0108
Literature	.0032	.0049	.0067	.0077	.0085	.0089	.0094	.0099	.0103	.0107	.0110	.0114	.0117
Control	.0072	.0149	.0185	.0193	.0207	.0218	.0228	.0235	.0244	.0248	.0251	.0254	.0258
t-test													
4 vs. C	0.49	1.36	2.07*	1.44	1.41	1.40	1.55	1.59	1.75	1.61	1.46	1.29	1.29
4 vs. 1	0.67	-0.68	-0.30	-0.62	-1.10	-1.70	-1.78	-1.47	-1.18	-0.97	-0.86	-0.78	-0.91
4 vs. L	0.04	-3.08**	-1.89	-1.64	-2.28*	-2.80**	-2.97**	-2.68**	-2.57*	-2.61**	-2.59**	-2.37*	-1.97*
1 vs. L	-0.48	-1.88	-1.29	-0.86	-1.01	-0.98	-1.06	-1.07	-1.20	-1.39	-1.46	-1.34	-0.93
1 vs. C	0.16	1.57	2.10*	1.63	1.80	2.05*	2.22*	2.14*	2.16*	1.95	1.76	1.57	1.62
L vs. C	0.44	2.46*	2.72**	2.07*	2.31*	2.54*	2.75**	2.68**	2.78**	2.68**	2.54*	2.30*	2.12*

*p < .05
**p < .01

TABLE 5.1 (CONTINUED)

CUMULATIVE SURVIVAL RATES FOR
FOUR DWI SCHOOL GROUPS
BY QUARTER OF ENTRY
(Q13 - Q24)

Cumulative Survival Rate	13	14	15	16	17	18	19	20	21	22	23	24
Four-Session	78.2	77.5	76.8	76.1	75.4	74.8	74.3	74.1	73.8	73.2	73.0	72.3
One-Session	79.3	78.6	78.0	77.1	76.7	75.9	75.5	75.1	74.5	73.8	73.8	73.0
Literature	80.4	79.7	79.0	77.8	77.4	76.5	75.7	75.1	75.1	75.1	74.6	73.6
Control	75.0	73.2	72.8	71.4	71.0	69.7	69.7	68.6	67.9	67.9	66.1	66.1
Effective Sample Size												
Four-Session	4581	4581	4581	4577	4565	4539	4502	4466	4391	4153	3985	3002
One-Session	1362	1362	1362	1360	1357	1347	1337	1322	1277	1189	1189	875
Literature	1084	1084	1084	1083	1081	1070	1056	1036	1036	1036	951	657
Control	276	276	276	276	275	273	273	266	257	257	201	201
Standard Error												
Four-Session	.0061	.0062	.0062	.0063	.0064	.0064	.0065	.0066	.0066	.0069	.0070	.0082
One-Session	.0110	.0111	.0112	.0114	.0115	.0117	.0118	.0119	.0122	.0128	.0128	.0150
Literature	.0121	.0122	.0124	.0126	.0127	.0130	.0132	.0134	.0134	.0134	.0141	.0172
Control	.0261	.0267	.0268	.0272	.0273	.0278	.0278	.0285	.0291	.0291	.0334	.0334
t-test												
4 vs. C	1.21	1.56	1.44	1.68	1.59	1.79	1.61	1.88	1.99*	1.80	2.04*	1.80
4 vs. 1	-0.84	-0.87	-0.92	-0.83	-0.93	-0.79	-0.86	-0.77	-0.51	-0.38	-0.53	-0.41
4 vs. L	-1.56	-1.65	-1.57	-1.26	-1.40	-1.12	-0.93	-0.68	-0.87	-1.24	-1.03	-0.72
1 vs. L	-0.65	-0.69	-0.59	-0.41	-0.45	-0.33	-0.13	0.01	-0.33	-0.71	-0.45	-0.29
1 vs. C	1.52	1.86	1.77	1.96*	1.92	2.04*	1.91	2.12*	2.10*	1.87	2.16*	1.88
L vs. C	1.86	2.22*	2.08*	2.16*	2.14*	2.19*	1.94	2.07*	2.26*	2.26*	2.37*	2.01*

*p < .05
**p < .01

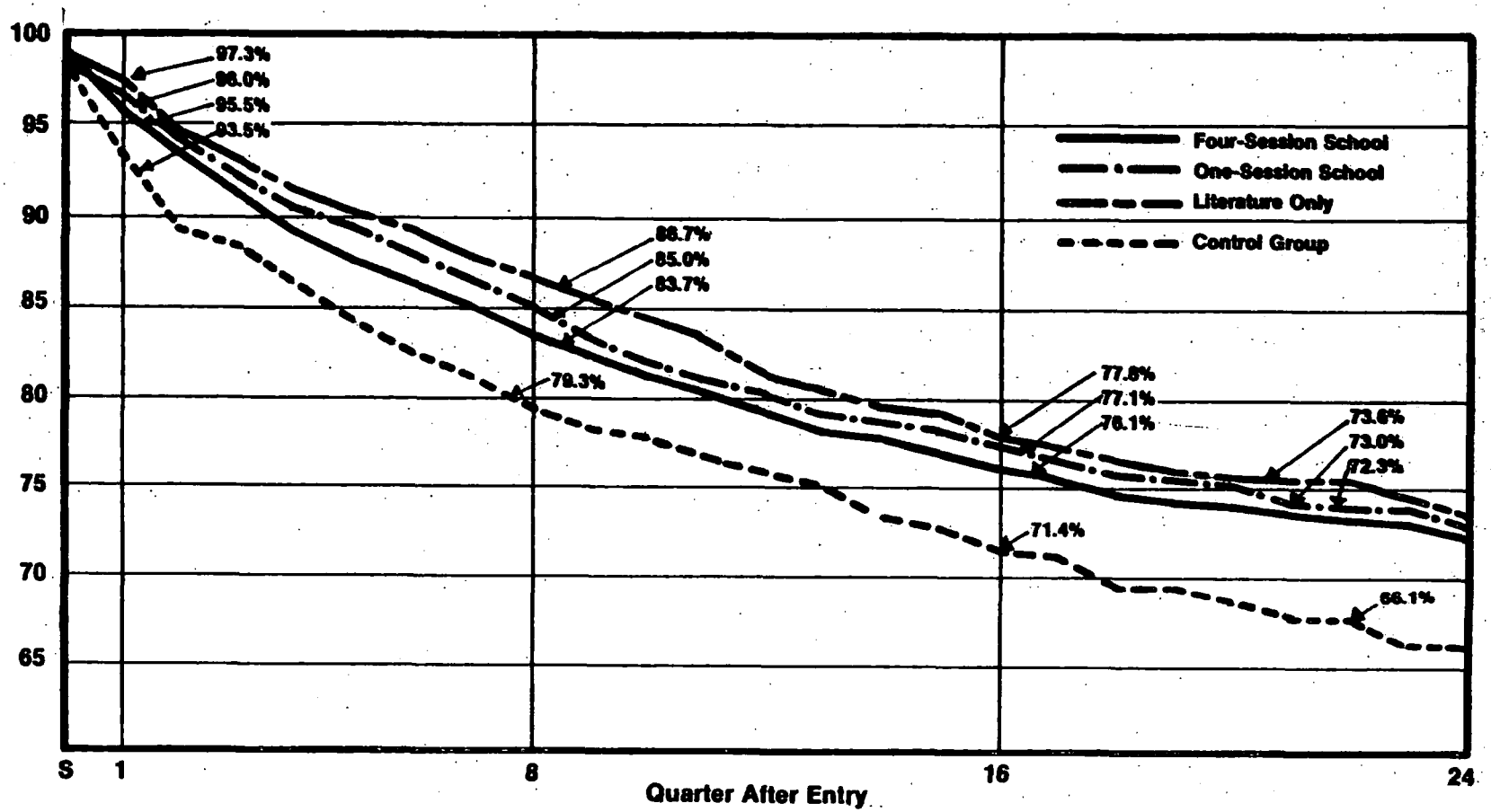

FIGURE 5.1
CUMULATIVE SURVIVAL RATES FOR
FOUR DWI SCHOOL GROUPS

TABLE 5.2

CUMULATIVE SURVIVAL RATES FOR
PREVENTION WORKSHOPS VS. HOME STUDY
BY QUARTER OF ENTRY

	S	1	2	3	4	5	6	7	8	9	10	11
Cumulative Survival Rate												
PW	99.3	97.1	95.0	92.7	91.2	89.7	88.7	87.6	86.6	86.1	85.6	85.3
HS	99.2	96.1	94.2	92.2	90.4	89.0	87.9	86.9	86.5	85.7	85.2	84.7
Effective Sample Size												
PW	3090	3090	3090	3090	3090	3090	3090	3090	3090	3090	3066	3006
HS	761	761	761	761	761	761	761	761	761	761	756	734
Standard Error												
PW	.0015	.0030	.0039	.0047	.0051	.0055	.0057	.0059	.0061	.0062	.0063	.0065
HS	.0032	.0071	.0085	.0097	.0107	.0114	.0118	.0122	.0124	.0127	.0129	.0133
t-test	0.12	1.30	0.79	0.38	0.70	0.62	0.58	0.57	0.10	0.33	0.28	0.39

TABLE 5.3

CUMULATIVE SURVIVAL RATES FOR
THERAPY WORKSHOPS VS. HOME STUDY
BY QUARTER OF ENTRY

	S	1	2	3	4	5	6	7	8	9	10	11
Cumulative Survival Rate												
TW	98.1	93.2	90.2	87.8	85.5	83.3	81.3	79.9	78.5	77.7	77.3	76.9
HS	97.3	93.1	89.9	86.6	84.2	81.2	80.3	79.4	77.9	76.7	75.6	74.9
Effective Sample Size												
TW	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1146	1125
HS	335	335	335	335	335	335	335	335	335	335	330	316
Standard Error												
TW	.0040	.0074	.0088	.0096	.0104	.0110	.0115	.0118	.0121	.0123	.0124	.0126
HS	.0088	.0138	.0165	.0186	.0199	.0213	.0217	.0221	.0227	.0231	.0236	.0244
t-test	0.80	0.05	0.17	0.60	0.58	0.88	0.41	0.20	0.24	0.39	0.66	0.72

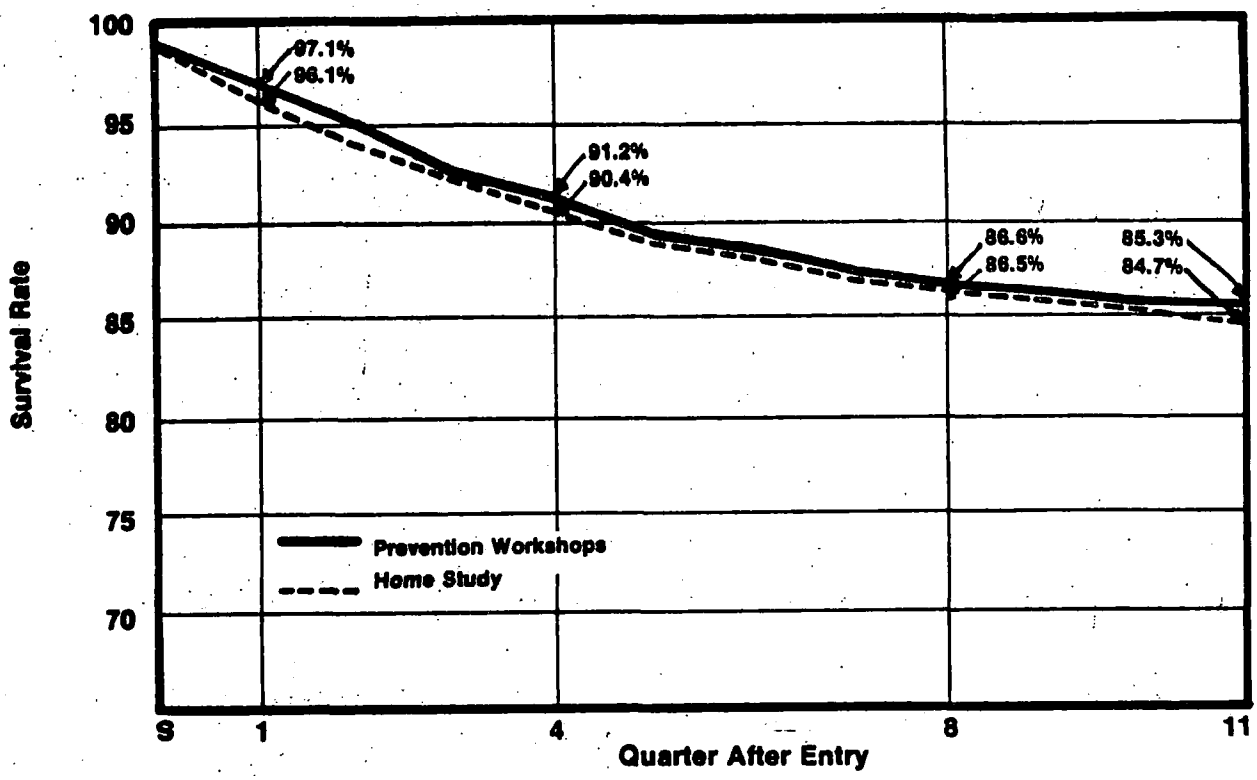

FIGURE 5.2
CUMULATIVE SURVIVAL RATES FOR
PREVENTION WORKSHOPS V. HOME STUDY

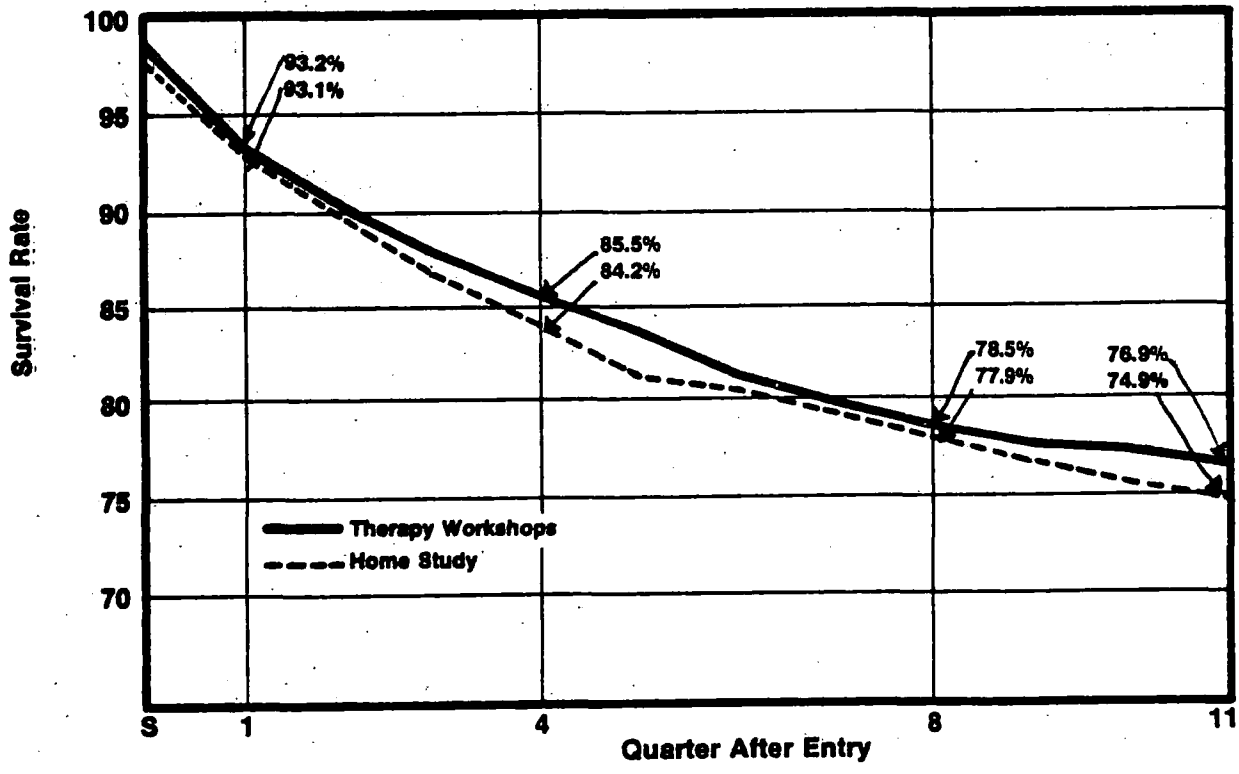

FIGURE 5.3
CUMULATIVE SURVIVAL RATES FOR
THERAPY WORKSHOPS V. HOME STUDY

TABLE 5.4

CUMULATIVE SURVIVAL RATES FOR
POWER MOTIVATION TRAINING VS. HOME STUDY
BY QUARTER OF ENTRY

	S	1	2	3	4	5	6	7	8	9	10	11
Cumulative Survival Rate												
PMT	100.0	96.1	91.2	91.2	88.2	85.3	84.3	84.3	83.3	83.3	83.3	83.3
HS	98.2	96.4	94.6	93.8	92.0	91.1	90.2	88.4	87.5	86.6	84.4	84.4
Effective Sample Size												
PMT	102	102	102	102	102	102	102	102	102	102	102	102
HS	112	112	112	112	112	112	112	112	112	112	108	108
Standard Error												
PMT	.0000	.0192	.0281	.0281	.0319	.0351	.0360	.0360	.0369	.0369	.0369	.0369
HS	.0125	.0175	.0213	.0229	.0257	.0269	.0281	.0303	.0313	.0322	.0350	.0350
t-test	1.43	-0.13	-0.98	-0.71	-0.91	-1.31	-1.28	-0.87	-0.86	-0.67	-0.21	-0.21

TABLE 5.5

CUMULATIVE SURVIVAL RATES FOR
PW, TW AND PMT VS. HOME STUDY
BY QUARTER OF ENTRY

	S	1	2	3	4	5	6	7	8	9	10	11
Cumulative Survival Rate												
PW/TW/PMT	99.0	96.0	93.6	91.3	89.6	87.9	86.6	85.5	84.4	83.9	83.4	83.0
Home Study	98.6	95.3	93.0	90.8	88.8	87.0	86.0	84.9	84.2	83.3	82.5	82.0
Effective Sample Size												
PW/TW/PMT	4342	4342	4342	4342	4342	4342	4342	4342	4342	4342	4316	4235
Home Study	1208	1208	1208	1208	1208	1208	1208	1208	1208	1208	1195	1160
Standard Error												
PW/TW/PMT	.0015	.0030	.0037	.0043	.0046	.0049	.0052	.0053	.0055	.0056	.0057	.0058
Home Study	.0034	.0061	.0073	.0083	.0091	.0097	.0100	.0103	.0105	.0107	.0110	.0113
t-test	1.00	1.08	0.67	0.57	0.80	0.85	0.54	0.50	0.17	0.48	0.71	0.82

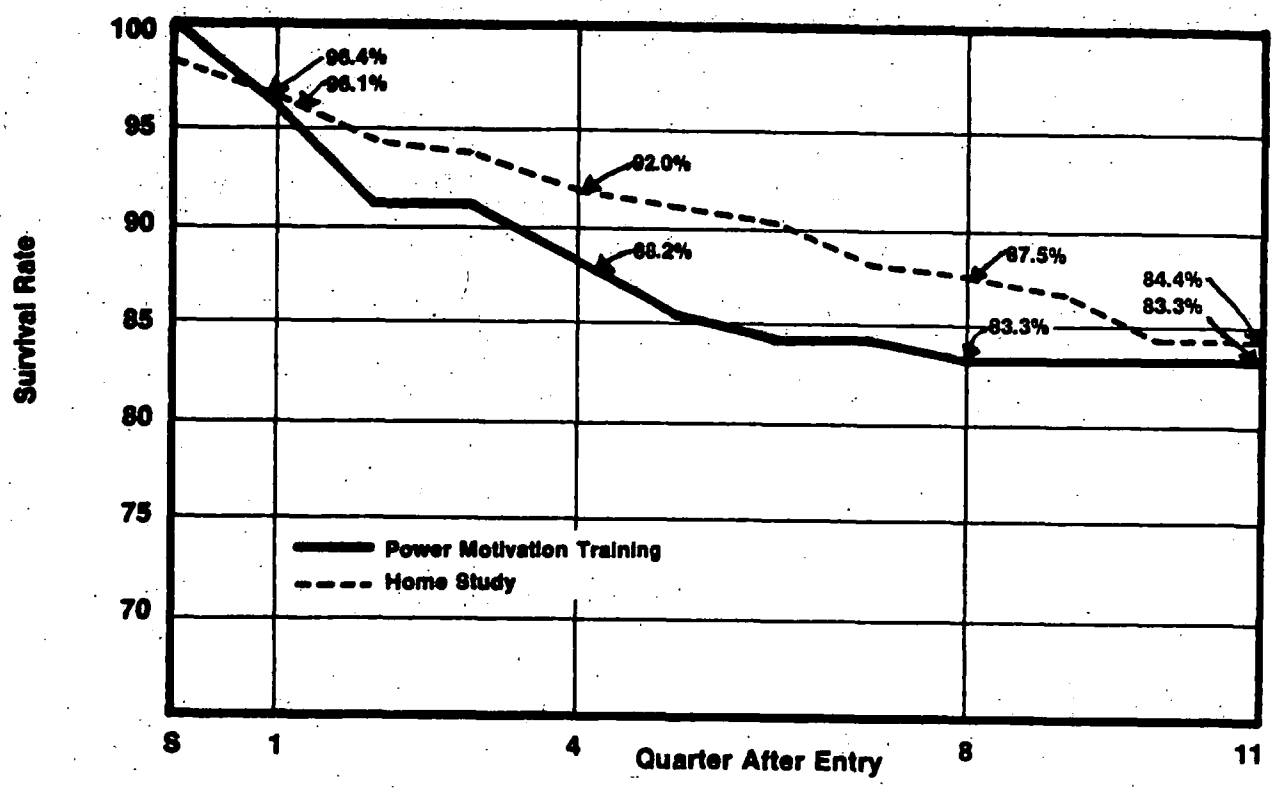

FIGURE 5.4
CUMULATIVE SURVIVAL RATES FOR
POWER MOTIVATION TRAINING V. HOME STUDY

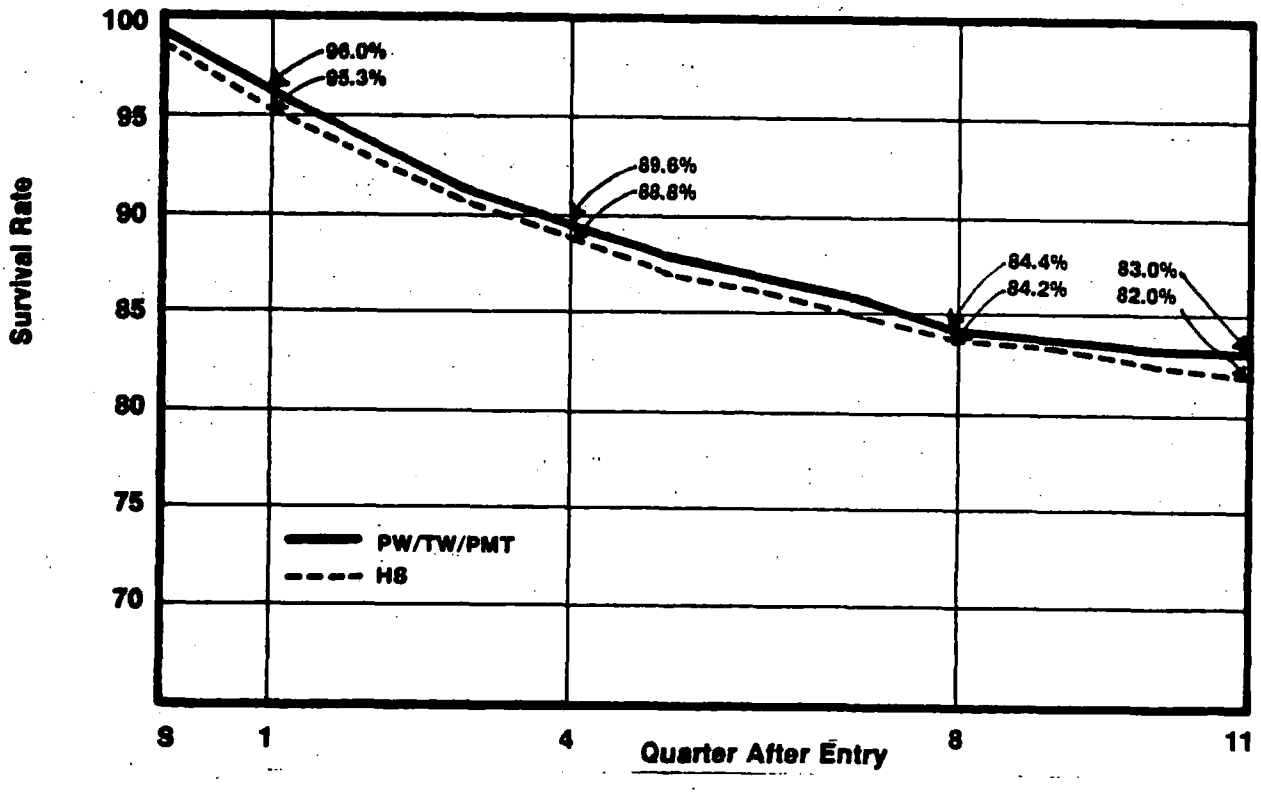

FIGURE 5.5
CUMULATIVE SURVIVAL RATES FOR
PW, TW AND PMT V. HS

TABLE 5.6

CUMULATIVE SURVIVAL RATES FOR
PW, TW AND PMT VS. FOUR-SESSION DWI SCHOOL
BY QUARTER OF ENTRY

	S	1	2	3	4	5	6	7	8	9	10	11
Cumulative Survival Rate												
PW/TW/PMT	99.0	96.0	93.6	91.3	89.6	87.9	86.6	85.5	84.4	83.9	83.4	83.0
DWI School	98.9	95.5	93.4	91.2	89.2	87.6	86.2	85.0	83.7	82.4	81.3	80.2
Effective Sample Size												
PW/TW/PMT	4342	4342	4342	4342	4342	4342	4342	4342	4342	4342	4316	4235
DWI School	4581	4581	4581	4581	4581	4581	4581	4581	4581	4581	4581	4581
Standard Error												
PW/TW/PMT	.0015	.0030	.0037	.0043	.0046	.0049	.0052	.0053	.0055	.0056	.0057	.0058
DWI School	.0015	.0030	.0037	.0042	.0046	.0049	.0051	.0053	.0055	.0056	.0058	.0059
t-test	0.25	1.10	0.41	0.16	0.64	0.54	0.54	0.68	0.86	1.88	2.57*	3.46**

*p < .05
**p < .01

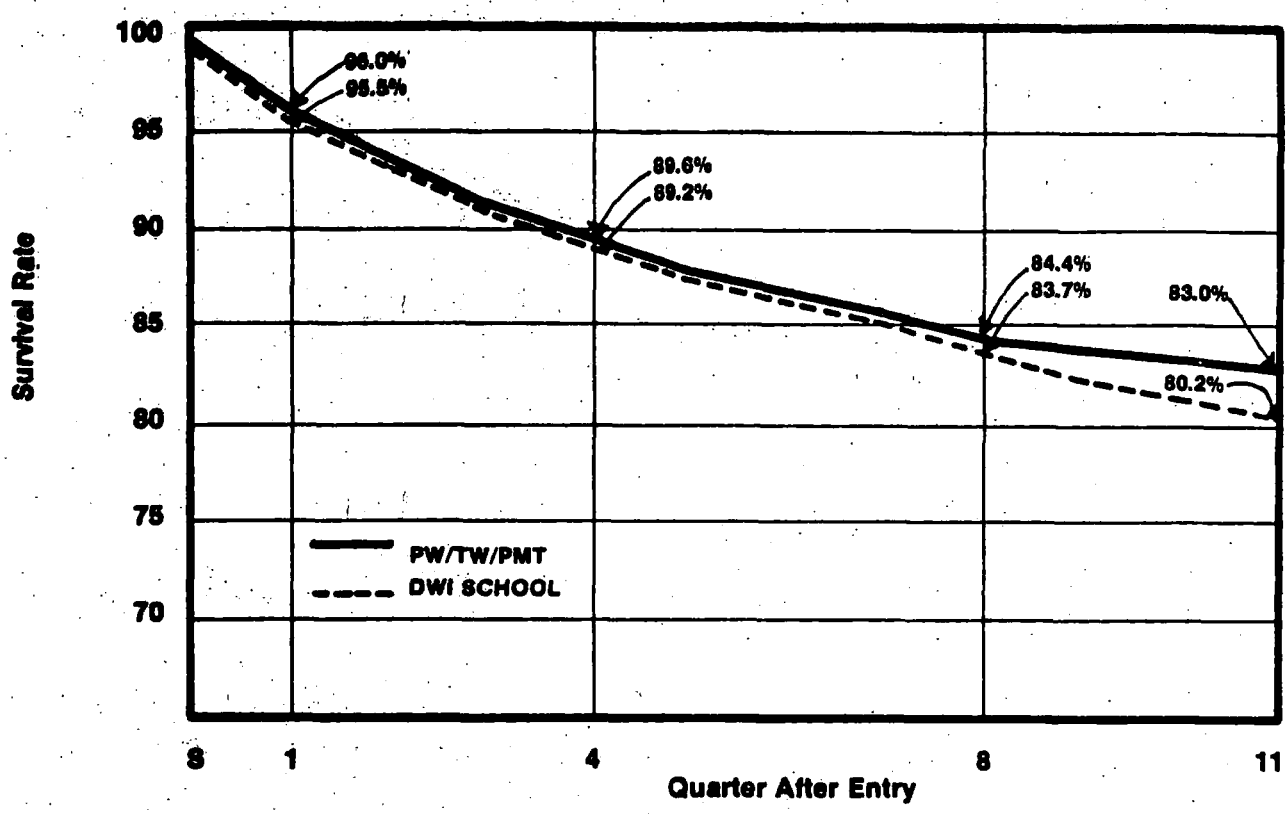

FIGURE 5.6
CUMULATIVE SURVIVAL RATES FOR
PW, TW AND PMT V. FOUR-SESSION DWI SCHOOL

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This section contains Appendix "H" evaluation tables for 1977. Data tables for earlier years (1972-1976) have been submitted as Section Three of previously-submitted Annual Reports. These data form the groundwork for program level ASAP evaluation. Data for Appendix "H" comes from a combination of sources.

Table 3D reports monthly total fatal crashes occurring in Phoenix by time of day and day of week. Source of these data is a hand tabulation of ASAP form 7424. In this table, the numeric cell value represents the total number of crashes. For all cells, a single asterisk (*) stands for an alcohol-related (A/R) crash in which a BAC test was given and alcohol was present; a double asterisk (**) stands for an A/R crash in which no BAC test was given but alcohol was present (usually by judgment of the arresting officer). Non-A/R crashes are not asterisked. Thus, the number of non-A/R crashes may be found by subtracting the number of single and double asterisks from any numeric cell value. For the grand total cell (row 9, column 8), the number of single and double asterisks have been totaled and put in parentheses to increase readability. For example, in a month in which eight fatal crashes occurred and five of these crashes were determined to be A/R (four by BAC test and one by officer judgment), an 8 (4*) would appear in the row 9, column 8 cell. If all
(1**)
eight crashes had been A/R by virture of a BAC test, the cell for row 9, column 8 would be shown as 8 (8*).

Table 3H reports monthly total injury crashes occurring in Phoenix by time of day and day of week. Source of these data is a magnetic computer tape provided by the Arizona State Department of Transportation.

Table 8B shows quarterly DWI arrest data. Included by time of day are DWI arrests by day of week, distribution of BAC readings obtained and implied consent refusals. Data are taken from a computer run of the ASAP data base.

Table 15 is not contained in this section. It provides the basis for the recidivism analysis which appears as section 5 of the present report.

APPENDIX H
TABLE 3D

TOTAL PROJECT IMPACT
FATAL
TOTAL CRASHES

TABLE NO. 3D
PROJECT: PHOENIX ASAP

MO. ENDING January 1977

ROW NO.	DAY OF WEEK	TIME OF DAY							
		M - 4am 1	4 - 8am 2	8am - N 3	N - 4pm 4	4 - 8pm 5	8pm - M 6	UNKNOWN 7	TOTAL 8
1	MONDAY	0	0	0	0	0	0	0	0
2	TUESDAY	0	0	0	0	0	0	0	0
3	WEDNESDAY	1**	1	0	0	0	0	0	2**
4	THURSDAY	0	0	0	0	0	0	0	0
5	FRIDAY	1*	1	0	2	0	0	0	4*
6	SATURDAY	2*	0	0	0	0	0	0	2*
7	SUNDAY	0	0	0	0	0	0	0	0
8	UNKNOWN	0	0	0	0	0	0	0	0
9	TOTAL	4 * **	2	0	2	0	0	0	8 (2*) (1**)

APPENDIX H
TABLE 3D

TOTAL PROJECT IMPACT
FATAL
TOTAL CRASHES

TABLE NO. 3D
PROJECT: PHOENIX ASAP

MO. ENDING February 1977

ROW NO.	DAY OF WEEK	TIME OF DAY							
		M - 4am 1	4 - 8am 2	8am - N 3	N - 4pm 4	4 - 8pm 5	8pm - M 6	UNKNOWN 7	TOTAL 8
1	MONDAY	0	0	0	0	0	0	0	0
2	TUESDAY	0	0	0	0	2	1*	0	3*
3	WEDNESDAY	0	0	0	0	0	1	0	1
4	THURSDAY	0	0	0	0	2	1*	0	3*
5	FRIDAY	0	0	0	0	1	0	0	1
6	SATURDAY	0	0	0	0	0	0	0	0
7	SUNDAY	0	0	0	0	0	0	0	0
8	UNKNOWN	0	0	0	0	0	0	0	0
9	TOTAL	0	0	0	0	5	3**	0	8(2*)

APPENDIX H
TABLE 3D

TOTAL PROJECT IMPACT
FATAL
TOTAL CRASHES

TABLE NO. 3D
PROJECT: PHOENIX ASAP

MO. ENDING March 1977

ROW NO.	DAY OF WEEK	TIME OF DAY							
		M - 4am 1	4 - 8am 2	8am - N 3	N - 4pm 4	4 - 8pm 5	8pm - M 6	UNKNOWN 7	TOTAL 8
1	MONDAY	0	0	0	0	0	0	0	0
2	TUESDAY	0	0	0	0	0	0	0	0
3	WEDNESDAY	1*	0	0	0	0	0	0	1*
4	THURSDAY	0	0	0	0	2*	0	0	2*
5	FRIDAY	1*	0	0	1	1*	0	0	3***
6	SATURDAY	0	0	0	0	0	0	0	0
7	SUNDAY	2*	1*	0	0	1*	1*	0	5*****
8	UNKNOWN	0	0	0	0	0	0	0	0
9	TOTAL	4***	1*	0	1	4***	1*	0	11(8*)

APPENDIX H
TABLE 3D

TOTAL PROJECT IMPACT
FATAL
TOTAL CRASHES

TABLE NO. 3D
PROJECT: PHOENIX ASAP

MO. ENDING April 1977

ROW NO.	DAY OF WEEK	TIME OF DAY							
		M - 4am 1	4 - 8am 2	8am - N 3	N - 4pm 4	4 - 8pm 5	8pm - M 6	UNKNOWN 7	TOTAL 8
1	MONDAY	0	0	0	0	0	1*	0	1*
2	TUESDAY	0	0	0	0	0	1*	0	1*
3	WEDNESDAY	0	0	1	0	0	1*	0	2*
4	THURSDAY	1*	0	0	0	0	0	0	1*
5	FRIDAY	0	0	1	0	0	0	0	1
6	SATURDAY	1*	0	1	0	0	0	0	2*
7	SUNDAY	1*	0	1	0	0	1	0	3*
8	UNKNOWN	0	0	0	0	0	0	0	0
9	TOTAL	3***	0	4	0	0	4***	0	11(6*)

APPENDIX H
TABLE 3D

TOTAL PROJECT IMPACT
FATAL
TOTAL CRASHES

TABLE NO. 3D
PROJECT: PHOENIX ASAP

MO. ENDING May 1977

ROW NO.	DAY OF WEEK	TIME OF DAY							
		M - 4am 1	4 - 8am 2	8am - N 3	N - 4pm 4	4 - 8pm 5	8pm - M 6	UNKNOWN 7	TOTAL 8
1	MONDAY	0	0	0	0	0	0	0	0
2	TUESDAY	0	0	0	1	0	2	0	3
3	WEDNESDAY	0	0	0	0	1	0	0	1
4	THURSDAY	0	0	0	0	0	1	0	1
5	FRIDAY	0	1	0	1	0	0	0	2
6	SATURDAY	0	1*	0	0	1**	0	0	2**
7	SUNDAY	0	1*	0	1	1	1*	0	4*
8	UNKNOWN	0	0	0	0	0	0	0	0
9	TOTAL	0	3*	0	3	3**	4*	0	13 (3*) (1**)

APPENDIX H
TABLE 3D

TOTAL PROJECT IMPACT
FATAL
TOTAL CRASHES

TABLE NO. 3D
PROJECT: PHOENIX ASAP

MO. ENDING June 1977

ROW NO.	DAY OF WEEK	TIME OF DAY							
		M - 4am 1	4 - 8am 2	8am - N 3	N - 4pm 4	4 - 8pm 5	8pm - M 6	UNKNOWN 7	TOTAL 8
1	MONDAY	1*	0	0	1	0	1*	0	3**
2	TUESDAY	0	0	0	0	1*	1*	0	2**
3	WEDNESDAY	0	0	1	0	0	0	0	1
4	THURSDAY	0	1	0	0	0	1*	0	2*
5	FRIDAY	0	0	1	0	0	1*	0	2*
6	SATURDAY	1*	0	0	0	0	0	0	1*
7	SUNDAY	0	0	0	1	0	0	0	1
8	UNKNOWN	0	0	0	0	0	0	0	0
9	TOTAL	2**	1	2	2	1*	4***	0	12(7*)

APPENDIX H
TABLE 3D

TOTAL PROJECT IMPACT
FATAL
TOTAL CRASHES

TABLE NO. 3D
PROJECT: PHOENIX ASAP

MO. ENDING July 1977

ROW NO.	DAY OF WEEK	TIME OF DAY							
		M - 4am 1	4 - 8am 2	8am - N 3	N - 4pm 4	4 - 8pm 5	8pm - M 6	UNKNOWN 7	TOTAL 8
1	MONDAY	0	0	0	0	1*	0	0	1*
2	TUESDAY	0	0	1	0	0	0	0	1
3	WEDNESDAY	0	0	0	0	0	0	0	0
4	THURSDAY	0	0	0	0	0	0	0	0
5	FRIDAY	0	0	1	0	0	1*	0	2*
6	SATURDAY	1	0	0	0	0	0	0	1
7	SUNDAY	0	0	0	0	0	1*	0	1*
8	UNKNOWN	0	0	0	0	0	0	0	0
9	TOTAL	1	0	2	0	1*	2*	0	6(3*)

APPENDIX H
TABLE 3D

TOTAL PROJECT IMPACT
FATAL
TOTAL CRASHES

TABLE NO. 3D
PROJECT: PHOENIX ASAP

MO. ENDING August 1977

ROW NO.	DAY OF WEEK	TIME OF DAY							
		M - 4am 1	4 - 8am 2	8am - N 3	N - 4pm 4	4 - 8pm 5	8pm - M 6	UNKNOWN 7	TOTAL 8
1	MONDAY	1*	0	0	0	1	1*	0	3**
2	TUESDAY	0	0	2	0	0	0	0	2
3	WEDNESDAY	1*	0	0	0	0	0	0	1*
4	THURSDAY	0	1	1	1	1	0	0	4
5	FRIDAY	0	0	0	0	1*	0	0	1*
6	SATURDAY	0	1*	0	0	0	0	0	1*
7	SUNDAY	2*	0	0	0	0	1*	0	3**
8	UNKNOWN	0	0	0	0	0	0	0	0
9	TOTAL	4***	2*	3	1	3*	2**	0	15(7*)

APPENDIX H
TABLE 3D

TOTAL PROJECT IMPACT
FATAL
TOTAL CRASHES

TABLE NO. 3D
PROJECT: PHOENIX ASAP

MO. ENDING September 1977

ROW NO.	DAY OF WEEK	TIME OF DAY							
		M - 4am 1	4 - 8am 2	8am - N 3	N - 4pm 4	4 - 8pm 5	8pm - M 6	UNKNOWN 7	TOTAL 8
1	MONDAY	0	0	0	0	0	1*	0	1*
2	TUESDAY	1*	0	0	1	1	2	0	5*
3	WEDNESDAY	1**	0	0	0	3*	0	0	4**
4	THURSDAY	1*	0	0	0	0	0	0	1*
5	FRIDAY	0	0	0	0	0	0	0	0
6	SATURDAY	2*	0	0	0	0	0	0	2*
7	SUNDAY	2**	0	0	0	0	0	0	2**
8	UNKNOWN	0	0	0	0	0	0	0	0
9	TOTAL	7***** **	0	0	1	4*	3*	0	15 (7*) (1**)

APPENDIX H
TABLE 3D

TOTAL PROJECT IMPACT
FATAL
TOTAL CRASHES

TABLE NO. 3D
PROJECT: PHOENIX ASAP

MO. ENDING October 1977

ROW NO.	DAY OF WEEK	TIME OF DAY							
		M - 4am 1	4 - 8am 2	8am - N 3	N - 4pm 4	4 - 8pm 5	8pm - M 6	UNKNOWN 7	TOTAL 8
1	MONDAY	0	0	0	0	1*	0	0	1*
2	TUESDAY	0	0	0	0	1*	1*	0	2**
3	WEDNESDAY	0	0	0	0	1	0	0	1
4	THURSDAY	0	0	1	0	1	2*	0	4*
5	FRIDAY	0	0	0	0	0	1	0	I
6	SATURDAY	2**	1*	0	0	0	0	0	3**
7	SUNDAY	0	1*	0	1	0	0	0	2*
8	UNKNOWN	0	0	0	0	0	0	0	0
9	TOTAL	2**	2**	1	1	4**	4**	0	14(8*)

APPENDIX H
TABLE 3D

TOTAL PROJECT IMPACT
FATAL
TOTAL CRASHES

TABLE NO. 3D
PROJECT: PHOENIX ASAP

MO. ENDING November 1977

ROW NO.	DAY OF WEEK	TIME OF DAY							
		M - 4am 1	4 - 8am 2	8am - N 3	N - 4pm 4	4 - 8pm 5	8pm - M 6	UNKNOWN 7	TOTAL 8
1	MONDAY	0	0	1	1	0	0	0	2
2	TUESDAY	1*	1	0	0	0	1*	0	3**
3	WEDNESDAY	0	0	0	0	1	0	0	1
4	THURSDAY	0	0	0	0	0	1	0	1
5	FRIDAY	0	1	0	1	0	0	0	2
6	SATURDAY	1*	0	0	0	1*	0	0	2**
7	SUNDAY	0	0	0	0	1*	1*	0	2**
8	UNKNOWN	0	0	0	0	0	0	0	0
9	TOTAL	2**	2	1	2	3**	3**	0	13(6*)

APPENDIX H
TABLE 3D

TOTAL PROJECT IMPACT
FATAL
TOTAL CRASHES

TABLE NO. 3D
PROJECT: PHOENIX ASAP

MO. ENDING December 1977

ROW NO.	DAY OF WEEK	TIME OF DAY							
		M - 4am 1	4 - 8am 2	8am - N 3	N - 4pm 4	4 - 8pm 5	8pm - M 6	UNKNOWN 7	TOTAL 8
1	MONDAY	1*	0	0	0	1**	0	0	2**
2	TUESDAY	0	0	0	0	0	0	0	0
3	WEDNESDAY	0	0	0	0	0	1*	0	1*
4	THURSDAY	1*	0	0	1	1	1*	0	4**
5	FRIDAY	0	0	1	0	3*	1*	0	5**
6	SATURDAY	1*	0	0	0	2*	0	0	3**
7	SUNDAY	1*	0	0	0	1*	1*	0	3**
8	UNKNOWN	0	0	0	0	0	0	0	0
9	TOTAL	4***	0	1	1	8***	4***	0	18 (11*) (1**)

APPENDIX H
TABLE 3H

TOTAL PROJECT IMPACT
INJURY
TOTAL CRASHES

TABLE NO. 3H
PROJECT: PHOENIX ASAP

MO. ENDING January 1977

ROW NO.	DAY OF WEEK	TIME OF DAY							
		M - 4am 1	4 - 8am 2	8am - N 3	N - 4pm 4	4 - 8pm 5	8pm - M 6	UNKNOWN 7	TOTAL 8
1	MONDAY	1	11	15	27	31	8	0	93
2	TUESDAY	4	5	24	17	12	4	0	66
3	WEDNESDAY	2	8	9	10	25	8	0	62
4	THURSDAY	3	0	11	20	21	5	0	60
5	FRIDAY	2	3	10	21	25	10	0	71
6	SATURDAY	29	5	15	21	29	14	0	113
7	SUNDAY	5	3	7	20	18	5	0	58
8	UNKNOWN	0	0	0	0	0	0	0	0
9	TOTAL	46	35	91	136	161	54	0	523

APPENDIX H
TABLE 3H

TOTAL PROJECT IMPACT
INJURY
TOTAL CRASHES

TABLE NO. 3H
PROJECT: PHOENIX ASAP

MO. ENDING February 1977

ROW NO.	DAY OF WEEK	TIME OF DAY							
		M - 4am 1	4 - 8am 2	8am - N 3	N - 4pm 4	4 - 8pm 5	8pm - M 6	UNKNOWN 7	TOTAL 8
1	MONDAY	5	5	15	24	14	7	0	70
2	TUESDAY	2	5	8	14	19	4	0	52
3	WEDNESDAY	2	6	10	13	6	6	0	43
4	THURSDAY	4	4	8	18	21	10	0	65
5	FRIDAY	7	6	17	24	26	15	0	95
6	SATURDAY	12	2	14	17	22	17	0	84
7	SUNDAY	10	1	7	19	15	9	0	61
8	UNKNOWN	0	0	0	0	0	0	0	0
9	TOTAL	42	29	79	129	123	68	0	470

APPENDIX H
TABLE 3H

TOTAL PROJECT IMPACT
INJURY
TOTAL CRASHES

TABLE NO. 3H
PROJECT: PHOENIX ASAP

MO. ENDING March 1977

ROW NO.	DAY OF WEEK	TIME OF DAY							
		M - 4am	4 - 8am	8am - N	N - 4pm	4 - 8pm	8pm - M	UNKNOWN	TOTAL
		1	2	3	4	5	6	7	8
1	MONDAY	6	6	14	28	15	4	0	73
2	TUESDAY	6	16	14	30	37	8	0	111
3	WEDNESDAY	4	5	23	19	18	9	0	78
4	THURSDAY	4	7	10	11	33	8	0	73
5	FRIDAY	5	6	22	23	30	15	0	101
6	SATURDAY	13	1	4	14	17	14	0	63
7	SUNDAY	13	1	4	11	16	10	0	55
8	UNKNOWN	0	0	0	0	0	0	0	0
9	TOTAL	51	42	91	136	166	68	0	554

APPENDIX H
TABLE 3H

TOTAL PROJECT IMPACT
INJURY
TOTAL CRASHES

TABLE NO. 3H
PROJECT: PHOENIX ASAP

MO. ENDING April 1977

ROW NO.	DAY OF WEEK	TIME OF DAY							
		M - 4am 1	4 - 8am 2	8am - N 3	N - 4pm 4	4 - 8pm 5	8pm - M 6	UNKNOWN 7	TOTAL 8
1	MONDAY	3	3	12	13	12	4	0	47
2	TUESDAY	1	1	12	20	11	4	0	49
3	WEDNESDAY	3	6	6	11	9	8	0	43
4	THURSDAY	4	3	11	11	20	6	0	55
5	FRIDAY	5	10	11	14	41	24	0	105
6	SATURDAY	20	3	15	20	22	18	0	98
7	SUNDAY	7	1	6	16	16	14	0	60
8	UNKNOWN	0	0	0	0	0	0	0	0
9	TOTAL	43	27	73	105	131	78	0	457

APPENDIX H
TABLE 3H

TOTAL PROJECT IMPACT
INJURY
TOTAL CRASHES

TABLE NO. 3H
PROJECT: PHOENIX ASAP

MO. ENDING May 1977

ROW NO.	DAY OF WEEK	TIME OF DAY							
		M - 4am	4 - 8am	8am - N	N - 4pm	4 - 8pm	8pm - M	UNKNOWN	TOTAL
		1	2	3	4	5	6	7	8
1	MONDAY	3	7	9	14	25	7	0	65
2	TUESDAY	4	6	15	25	21	8	0	79
3	WEDNESDAY	5	11	8	17	21	6	0	68
4	THURSDAY	6	0	15	18	21	7	0	67
5	FRIDAY	4	7	24	34	42	24	0	135
6	SATURDAY	10	1	8	10	9	15	0	53
7	SUNDAY	16	5	4	12	20	9	0	66
8	UNKNOWN	0	0	0	0	0	0	0	0
9	TOTAL	48	37	83	130	159	76	0	533

APPENDIX H
TABLE 3H

TOTAL PROJECT IMPACT
INJURY
TOTAL CRASHES

TABLE NO. 3H
PROJECT: PHOENIX ASAP

MO. ENDING June 1977

ROW NO.	DAY OF WEEK	TIME OF DAY							
		M - 4am	4 - 8am	8am - N	N - 4pm	4 - 8pm	8pm - M	UNKNOWN	TOTAL
		1	2	3	4	5	6	7	8
1	MONDAY	5	6	14	18	16	9	0	68
2	TUESDAY	2	1	5	10	18	3	0	39
3	WEDNESDAY	2	9	14	18	26	8	0	77
4	THURSDAY	6	5	13	20	22	22	0	88
5	FRIDAY	7	6	13	20	16	13	0	75
6	SATURDAY	10	3	10	19	20	19	0	81
7	SUNDAY	13	1	0	5	3	4	0	26
8	UNKNOWN	0	0	0	0	0	0	0	0
9	TOTAL	45	31	69	110	121	78	0	454

APPENDIX H
TABLE 3H

TOTAL PROJECT IMPACT
INJURY
TOTAL CRASHES

TABLE NO. 3H
PROJECT: PHOENIX ASAP

MO. ENDING July 1977

ROW NO.	DAY OF WEEK	TIME OF DAY							
		M - 4am 1	4 - 8am 2	8am - N 3	N - 4pm 4	4 - 8pm 5	8pm - M 6	UNKNOWN 7	TOTAL 8
1	MONDAY	1	3	9	19	22	4	0	58
2	TUESDAY	2	5	10	18	14	6	0	55
3	WEDNESDAY	2	14	22	17	17	11	0	83
4	THURSDAY	4	8	17	24	20	8	0	81
5	FRIDAY	5	2	18	26	27	13	0	91
6	SATURDAY	14	5	9	12	18	9	0	67
7	SUNDAY	8	4	11	7	11	7	0	48
8	UNKNOWN	0	0	0	0	0	0	0	0
9	TOTAL	36	41	96	123	129	58	0	483

APPENDIX H
TABLE 3H

TOTAL PROJECT IMPACT
INJURY
TOTAL CRASHES

TABLE NO. 3H
PROJECT: PHOENIX ASAP

MO. ENDING August 1977

ROW NO.	DAY OF WEEK	TIME OF DAY							
		M - 4am 1	4 - 8am 2	8am - N 3	N - 4pm 4	4 - 8pm 5	8pm - M 6	UNKNOWN 7	TOTAL 8
1	MONDAY	8	7	24	20	33	14	0	106
2	TUESDAY	4	6	19	27	21	13	0	90
3	WEDNESDAY	8	6	17	15	24	2	0	72
4	THURSDAY	4	8	11	24	19	14	0	80
5	FRIDAY	4	9	14	27	36	18	0	108
6	SATURDAY	12	6	14	13	16	21	0	82
7	SUNDAY	10	2	6	10	9	11	0	48
8	UNKNOWN	0	0	0	0	0	0	0	0
9	TOTAL	50	44	105	136	158	93	0	586

APPENDIX H
TABLE 3H

TOTAL PROJECT IMPACT
INJURY
TOTAL CRASHES

TABLE NO. 3H
PROJECT: PHOENIX ASAP

MO. ENDING September 1977

ROW NO.	DAY OF WEEK	TIME OF DAY							
		M - 4am	4 - 8am	8am - N	N - 4pm	4 - 8pm	8pm - M	UNKNOWN	TOTAL
		1	2	3	4	5	6	7	8
1	MONDAY	9	12	17	19	30	4	0	91
2	TUESDAY	2	8	23	30	15	7	0	85
3	WEDNESDAY	4	12	12	19	30	10	0	87
4	THURSDAY	3	14	11	17	29	13	0	87
5	FRIDAY	7	7	23	30	51	29	0	147
6	SATURDAY	22	9	8	18	21	16	0	94
7	SUNDAY	15	1	6	13	23	10	0	68
8	UNKNOWN	0	0	0	0	0	0	0	0
9	TOTAL	62	63	100	146	199	89	0	659

APPENDIX H
TABLE 3H

TOTAL PROJECT IMPACT
INJURY
TOTAL CRASHES

TABLE NO. 3H
PROJECT: PHOENIX ASAP

MO. ENDING October 1977

ROW NO.	DAY OF WEEK	TIME OF DAY							
		M - 4am 1	4 - 8am 2	8am - N 3	N - 4pm 4	4 - 8pm 5	8pm - M 6	UNKNOWN 7	TOTAL 8
1	MONDAY	3	10	20	32	32	13	0	110
2	TUESDAY	2	9	17	28	23	15	0	94
3	WEDNESDAY	0	8	16	31	20	12	0	87
4	THURSDAY	2	8	12	19	20	4	0	65
5	FRIDAY	5	7	14	19	23	14	0	82
6	SATURDAY	24	11	18	25	20	21	0	119
7	SUNDAY	20	6	12	15	18	8	0	79
8	UNKNOWN	0	0	0	0	0	0	0	0
9	TOTAL	56	59	109	169	156	87	0	636

APPENDIX H
TABLE 3H

TOTAL PROJECT IMPACT
INJURY
TOTAL CRASHES

TABLE NO. 3H
PROJECT: PHOENIX ASAP

MO. ENDING November 1977

ROW NO.	DAY OF WEEK	TIME OF DAY							
		M - 4am	4 - 8am	8am - N	N - 4pm	4 - 8pm	8pm - M	UNKNOWN	TOTAL
		1	2	3	4	5	6	7	8
1	MONDAY	4	7	9	15	19	9	0	63
2	TUESDAY	8	5	19	25	20	7	0	84
3	WEDNESDAY	4	4	16	14	30	10	0	78
4	THURSDAY	6	6	12	24	23	8	0	79
5	FRIDAY	7	4	10	29	25	11	0	86
6	SATURDAY	11	6	11	23	24	21	0	96
7	SUNDAY	13	0	3	13	13	4	0	46
8	UNKNOWN	0	0	0	0	0	0	0	0
9	TOTAL	53	32	80	143	154	70	0	532

APPENDIX H
TABLE 3H

TOTAL PROJECT IMPACT
INJURY
TOTAL CRASHES

TABLE NO. 3H
PROJECT: PHOENIX ASAP

MO. ENDING December 1977

ROW NO.	DAY OF WEEK	TIME OF DAY							
		M - 4am 1	4 - 8am 2	8am - N 3	N - 4pm 4	4 - 8pm 5	8pm - M 6	UNKNOWN 7	TOTAL 8
1	MONDAY	1	4	9	14	31	12	0	71
2	TUESDAY	3	10	17	20	23	5	0	78
3	WEDNESDAY	5	6	16	15	18	2	0	62
4	THURSDAY	2	6	11	15	26	8	0	68
5	FRIDAY	7	6	22	38	53	24	0	150
6	SATURDAY	34	4	15	33	42	19	0	147
7	SUNDAY	9	0	4	12	17	7	0	49
8	UNKNOWN	0	0	0	0	0	0	0	0
9	TOTAL	61	36	94	147	210	77	0	625

TABLE 83
ENFORCEMENT
PATROL ACTIVITY BY TIME OF DAY

TABLE NO. 85
PROJECT: PHOENIX ASAP
QTR ENDING MARCH 1977

REGULAR PATROLS

RON NO.	EVALUATION MEASURE	REPORTING QUARTER TIME OF DAY M-4AM	4-8AM	8AM-N	N-4PM	4-8PM	8PM-M	UNKNOW	TOTAL	PRIOR QTR TOTAL	REPORTING QTR PRIOR YEAR TOTAL
		1	2	3	4	5	6	7	8	9	10
1	A/R TRAFFIC ARRESTS	1009	79	36	83	364	814	4	2389	2620	2303
2	DWI (OR EQUIVALENT)	1009	79	36	83	364	814	4	2389	2620	2303
3	OTHER	0	0	0	0	0	0	0	0	0	0
4	OTHER	0	0	0	0	0	0	0	0	0	0
5	IMPLIED CONSENT REFUSALS	106	6	3	18	32	89	0	253	236	232
6	NUMBER OF BACS OBTAINED	894	72	33	65	328	721	4	2117	2370	2061
7	% OBTAINED	89	91	92	78	90	89	100	89	90	89
8	AVERAGE BAC	.168	.159	.198	.208	.181	.178	.175	.175	.178	.179
9	NEGATIVE BAC	4	2	0	0	4	1	0	11	11	18
10	01 TO 04	1	1	0	1	3	1	0	7	7	8
11	05 TO 09	48	2	1	3	11	33	0	98	99	81
12	10 TO 14	220	24	4	7	67	144	1	467	551	440
13	15 TO 19	361	23	12	12	108	271	2	789	829	719
14	20 TO 24	203	15	9	22	90	201	1	547	618	571
15	25 +	51	5	7	20	45	70	0	198	255	224
16	TOTAL A/R ARRESTS BY DAY	1009	79	36	83	364	814	4	2389	2620	2303
17	MON	117	7	3	14	36	85	0	262	297	278
18	TUE	107	8	5	9	48	120	1	298	268	243
19	WED	101	5	3	9	39	104	0	263	295	244
20	THU	123	10	7	12	41	94	0	287	320	277
21	FRI	131	2	1	11	62	143	1	351	491	356
22	SAT	229	25	11	19	77	163	0	524	547	510
23	SUN	199	22	6	9	61	105	2	404	402	395

TABLE 83
ENFORCEMENT
PATROL ACTIVITY BY TIME OF DAY

TABLE NO. 68
PROJECT: PHOENIX ASAP
QTR ENDING JUNE 1977

REGULAR PATROLS

ROW NO.	EVALUATION MEASURE	REPORTING QUARTER TIME OF DAY M-4AM 1	4-8AM 2	8AM-N 3	N-4PM 4	4-8PM 5	8PM-M 6	UNKNOW 7	TOTAL 8	PRIOR QTR TOTAL 9	REPORTING QTR PRIOR YEAR TOTAL 10
1	A/R TRAFFIC ARRESTS	943	83	43	94	323	696	5	2187	2389	2110
2	DWI (OR EQUIVALENT)	943	83	43	94	323	696	5	2187	2389	2110
3	OTHER	0	0	0	0	0	0	0	0	0	0
4	OTHER	0	0	0	0	0	0	0	0	0	0
5	IMPLIED CONSENT REFUSALS	84	9	3	9	41	68	2	216	253	202
6	NUMBER OF BACS OBTAINED	858	74	38	85	281	627	3	1966	2117	1906
7	% OBTAINED	91	89	88	90	87	90	60	90	89	90
8	AVERAGE BAC	.167	.171	.206	.209	.182	.174	.220	.174	.175	.183
9	NEGATIVE BAC	5	0	0	0	2	1	0	8	11	17
10	01 TO 04	1	0	1	0	1	1	0	4	7	5
11	05 TO 09	34	6	2	3	15	24	0	84	98	64
12	10 TO 14	217	14	4	9	58	168	0	470	467	410
13	15 TO 19	379	31	7	24	89	218	1	749	789	658
14	20 TO 24	185	18	13	27	75	172	2	492	547	480
15	25 +	37	5	11	22	41	43	0	159	198	272
16	TOTAL A/R ARRESTS BY DAY	943	83	43	94	323	696	5	2187	2389	2110
17	MON	111	7	5	8	43	65	2	241	262	218
18	TUE	93	5	6	10	36	94	0	244	298	218
19	WED	114	2	4	11	30	84	0	245	263	251
20	THU	92	5	3	13	40	78	0	231	287	253
21	FRI	131	8	8	11	47	149	1	355	351	345
22	SAT	214	36	11	24	73	138	2	492	524	443
23	SUN	188	26	6	17	54	38	0	379	404	377

TABLE A3
ENFORCEMENT
PATROL ACTIVITY BY TIME OF DAY

TABLE NO. 39
PROJECT: PHOENIX ASAP
QTR ENDING SEPTEMBER 1977

REGULAR PATROLS

ROW NO.	EVALUATION MEASURE	REPORTING QUARTER TIME OF DAY							TOTAL	PRIOR QTR TOTAL	REPORTING QTR PRIOR YEAR TOTAL
		M-4AM 1	4-8AM 2	8AM-N 3	N-4PM 4	4-8PM 5	8PM-M 6	UNKNOW 7	8	9	10
1	A/R TRAFFIC ARRESTS	879	72	40	76	307	731	18	2123	2187	2200
2	DWI (OR EQUIVALENT)	879	72	40	76	307	731	18	2123	2187	2200
3	OTHER	0	0	0	0	0	0	0	0	0	0
4	OTHER	0	0	0	0	0	0	0	0	0	0
5	IMPLIED CONSENT REFUSALS	43	9	2	4	33	72	4	207	216	207
6	NUMBER OF BACS OBTAINED	792	63	36	72	273	656	14	1906	1966	1980
7	% OBTAINED	90	88	90	95	89	90	78	90	90	90
8	AVERAGE BAC	.173	.165	.210	.188	.186	.176	.188	.177	.174	.184
9	NEGATIVE BAC	1	1	0	2	1	1	0	6	8	9
10	01 TO 04	1	0	0	0	0	0	0	1	4	1
11	05 TO 09	22	3	1	4	13	15	0	58	84	75
12	10 TO 14	207	19	4	12	53	154	5	454	470	426
13	15 TO 19	307	24	12	19	89	269	1	721	749	637
14	20 TO 24	261	12	9	18	74	157	5	476	492	552
15	25 +	53	4	10	17	43	60	3	190	159	280
16	TOTAL A/R ARRESTS BY DAY	879	72	40	76	307	731	18	2123	2187	2200
17	MON	94	7	7	5	44	71	2	230	241	225
18	TUE	75	6	7	9	40	75	1	213	244	235
19	WED	114	9	4	12	27	88	1	255	245	237
20	THU	102	4	8	9	34	85	4	246	231	301
21	FRI	124	4	4	9	47	165	2	355	355	371
22	SAT	203	24	4	24	63	150	4	472	492	488
23	SUN	167	10	6	8	52	97	4	354	379	343

TABLE 83
ENFORCEMENT
PATROL ACTIVITY BY TIME OF DAY

TABLE NO. 83
PROJECT: PHOENIX ASAP
QTR ENDING DECEMBER 1977

REGULAR PATROLS

ROW NO.	EVALUATION MEASURE	REPORTING QUARTER TIME OF DAY M-4AM	4-8AM	8AM-N	N-4PM	4-8PM	8PM-M	UNKNOW	TOTAL	PRIOR QTR TOTAL	REPORTING QTR PRIOR YEAR TOTAL
		1	2	3	4	5	6	7	8	9	10
1	A/R TRAFFIC ARRESTS	1076	67	49	123	373	789	44	2541	2123	2620
2	DWI (OR EQUIVALENT)	1076	67	49	123	373	789	44	2541	2123	2620
3	OTHER	0	0	0	0	0	0	0	0	0	0
4	OTHER	0	0	0	0	0	0	0	0	0	0
5	IMPLIED CONSENT REFUSALS	87	12	4	9	31	96	10	239	207	236
6	NUMBER OF BACS OBTAINED	983	75	44	113	337	599	33	2284	1906	2370
7	% OBTAINED	91	86	90	92	90	89	75	90	90	90
8	AVERAGE BAC	.168	.167	.199	.193	.190	.175	.176	.175	.177	.178
9	NEGATIVE BAC	2	0	0	0	0	2	0	4	6	11
10	01 TO 04	2	0	0	0	0	0	0	2	1	7
11	05 TO 09	35	4	3	11	10	26	1	90	58	99
12	10 TO 14	274	18	7	13	64	177	9	562	454	551
13	15 TO 19	405	33	7	26	115	264	13	863	721	829
14	20 TO 24	208	17	14	41	89	166	5	540	476	618
15	25 +	57	3	13	22	59	64	5	223	190	255
16	TOTAL A/R ARRESTS BY DAY	1076	67	49	123	373	789	44	2541	2123	2620
17	MON	123	15	1	15	45	90	5	294	230	297
18	TUE	119	2	2	14	31	105	5	278	213	268
19	WED	103	5	10	16	35	83	1	254	255	295
20	THU	130	4	7	16	50	99	7	313	246	320
21	FRI	124	7	11	22	74	153	6	397	355	491
22	SAT	251	31	12	24	81	162	15	576	472	547
23	SUN	226	23	6	16	56	97	5	429	352	402

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