

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILE 8672
1440 SCOMM 52: JOINT SPEC. COMMITTEE ON LOCAL OPTION LAWS 1985-86

Research Implications

The villages' attitude in the region visited was that if a new technology to stem the tide of alcoholism is available, "let's get it." This is different from villages in other regions which tend to adopt a "wait and see" attitude, watching the experience of other villages before acting themselves. This attitude in the region studied bespeaks the seriousness with which they view the problem, the determination they have to make progress, and their willingness to mobilize all levels of the community and all combinations of tools to accomplish this end. No part of the village is left out of active participation. If a community improves, no one will be able to tell which particular new (since 1980) tool (e.g., LO, selective enforcement, intimidation, extralegal enforcement, elders' meetings, religious meetings, peer counseling, natural helpers, spirit committees, school prevention programs, talking circles, community development, counselors, mental health and suicide programs, safe houses, women's shelters, treatment programs, protective custody, VPSO, courts, trooper support, self-determination movement) did the trick. The whole is seen as operating, not only the individual parts.

There was a general uniformity of response to questions about LO and its consequences in the four villages within this region. Villages focused on the same strong points, weak points, and recommended changes. This suggests the possibility of using one or two communities as an index for a region, to assess change over time. While family relationships and events differ, the core

processes seem quite similar.

Villagers seemed to draw their sense of community change about equally from both positive and negative social indicators; the differences among villagers seemed to reflect more on their individual and personal perspectives than on any formal consensus about community functioning.

Since there is a lack of a quantified data base, we would have to create one for each community on the indicators of significance and ensure accurate reporting on a regular interval basis. This could be done by having a long-term resident research assistant in each village tabulating these data from the various sources in the village.

The quantified data base would rely on an index of indicators as reported through community perceptions, social agency perceptions, social agency reports and alcohol retail records. We would recommend one additional research tool. The great concern within these villages seems to be for the children. If community efforts are successful, we would expect that the substance use of children would reflect changes over time, in terms of the age of starting use of each substance, the volumes and frequency of use, and the social situations and personal purposes of this use. These patterns of use can be measured on a routine and quantified basis through a self-report survey already validated in rural regions. Applying this survey on a semi-annual basis in the hub and certain index villages should reveal the degree of progress or change created by these many community efforts to combat alco-

hol and drug use.

The Effects of the Local Option Law

The purpose of this study, funded by the State Office of Alcoholism and Drug Abuse, is to discover in what ways villages have changed as the result of the enactment and implementation of their local option.

There are two ways of examining how the villages have changed. The first way is to look at changes in official records, such as health, public safety, education, social services, and so on. Much of this can be done in the offices of agencies which keep their records in (the Hub). Only a small number of records need to be examined in the villages.

The second way is to ask village people, particularly members of boards and councils, VPSOs, and health aides, what good and bad changes they have seen since the local option election. The information from village people and from local records will be studied and reported in our final report.

No community or person will be named in our final report; we want to explain what has happened and why as a result of local option, but not affect the reputation or privacy of any person, village, or agency.

We have asked for and received the kind assistance of (Regional Non-Profit Board), its village representatives, and the Public Health Service. We request your assistance in answering these important questions and will make sure that the findings of the study are reported back to the participating communities and agencies.

Please feel free to contact us should you have any questions or comments. Thank you for your assistance.

Sincerely,

Steve Edwards
Justice Center
School of Justice
University of Alaska, Anchorage
3211 Providence Drive
Anchorage, AK 99508
(907) 786-1818

Tom Lonner
Center for Alcohol and
Addiction Studies
University of Alaska, Anchorage
3211 Providence Drive
Anchorage, AK 99508
(907) 786-1818

Quantified Systems Data Guide - Participation: Council, Civil Activities Church, School Board, Health Board, Alcohol Council, Spirit Committee, etc.

Village A B C D (circle one)

Describe system:

Where is it?

Who maintains it?

How old is the system?

How reliable is it (is the information gathered and recorded in a uniform fashion)?

How valid is it (does it seem to reflect the reality of village life)?

Why was the system created and what kinds of questions can it answer?

Describe changes:

BEFORE LO/AFTER LO

	(numbers)	explanation/ description	
<u>number of persons participating</u>			
<u>amount of their participation</u>			
<u>type of person participating</u>			
<u>nature of activity</u>			
<u>nature of concerns</u>			
<u>others</u>			

Village A B C D (circle one)

Regional Informants

Name	Address	Telephone	Interview	Data Review
Health:				
<u>Physicians</u>				
<u>Emergency Room Nurse</u>				
<u>Itinerant PMN</u>				
Mental Health Program				
<u>Counselor 1</u>				
<u>Counselor 2</u>				
<u>Counselor 3</u>				
Alcohol Program				
<u>Counselor 1</u>				
<u>Counselor 2</u>				
<u>Counselor 3</u>				
<u>Itinerant 1</u>				
<u>Itinerant 2</u>				
Social Services:				
<u>Family Service Agency</u>				
<u>Children's Services</u>				
<u>(including custody and abuse matters)</u>				
<u>Women's Shelter</u>				
<u>Counseling Service</u>				
<u>Suicide Prevention</u>				

Legal System:

District Court Judge

District Attorney

Public Defender

Alaska Legal Services

Alaska State Troopers

VPSO Coordinator/Supervisor

Education:

School District

Employment:

Manpower

Village A B C D (circle one)

Local Informants

position (no name)	Data Review	Interview
<u>Village Public Safety Officer 1</u>		
<u>Village Public Safety Officer 2</u>		
<u>Health Board member(s)</u>		
<u>Health Aide 1</u>		
<u>Health Aide 2</u>		
<u>Community Health Representative</u>		
<u>Alcohol Counselor</u>		
<u>Mental Health Counselor</u>		
<u>Village Alcohol Council Member(s)</u>		
<u>Spirit Committee Member(s)</u>		
<u>Minister(s) (may reside in Kotzebue)</u>		
<u>School Board Member(s)</u>		

<u>School Teacher/Principal</u>		
<u>Students</u>		
<u>Village/City Council Members</u>		
1		
2		
3		
4		
5		
<u>Village/City Council Secretary</u>		
<u>Other Village Informants</u>		
<u>e.g., elders</u>		
<u>village corporation manager</u>		
<u>community services manager</u>		
<u>etc.</u>		

Quantified Systems Data Guide - Public Safety

Village A B C D (circle one)

Describe system:

Where is it?

Who maintains it?

How old is the system?

How reliable is it (is the information gathered and recorded in a uniform fashion)?

How valid is it (does it seem to reflect the reality of village life)?

Why was the system created and what kinds of questions can it answer?

Describe changes:

	BEFORE LO/ AFTER LO		explanation/ description
	(numbers)		
<u>violating local option</u>			
<u>bootlegging</u>			
<u>public drunkenness</u>			
<u>drunken driving</u>			
<u>threatening behavior</u>			
<u>discharging firearms</u>			
<u>assault/fighting</u>			
<u>domestic disturbance</u>			

<u>spouse abuse</u>			
<u>child abuse</u>			
<u>rape</u>			
<u>homicide</u>			
<u>suicide</u>			
<u>breaking and entering</u>			
<u>theft</u>			
<u>possession of drugs</u>			
<u>disorderly conduct</u>			
<u>arson</u>			
<u>accidents</u>			
<u>drowning</u>			
<u>burns</u>			
<u>frostbite</u>			
<u>operating a vehicle</u>			
<u>operating equipment</u>			
<u>firearms</u>			
<u>boats</u>			
<u>aircraft</u>			
<u>curfew violations</u>			
<u>detoxification</u>			
<u>juvenile problems</u>			
Classes of required action:			
<u>a call/report</u>			
<u>arrest</u>			
<u>complaint</u>			
<u>charge</u>			

Quantified Systems Data Guide - Health, Alcohol, Mental Health

Village A B C D (circle one)

Describe system:

Where is it?

Who maintains it?

How old is the system?

How reliable is it (is the information gathered and recorded in a uniform fashion)?

How valid is it (does it seem to reflect the reality of village life)?

Why was the system created and what kinds of questions can it answer?

Describe changes:

	BEFORE LO/	AFTER LO	explanation/ description
<u>alcohol abuse</u>			
<u>alcohol problems</u>			
<u>cirrhosis</u>			
<u>withdrawal</u>			
<u>psychosis</u>			
<u>depression</u>			
<u>self-neglect (e.g.,</u>			
<u>hygiene</u>			
<u>nutrition</u>			
<u>drug problems</u>			
<u>accidents</u>			
<u>self-inflicted trauma</u>			

<u>suicide gestures/ attempts</u>			
<u>victim of inflicted trauma</u>			
<u>spouse abuse</u>			
<u>child neglect</u>			
<u>emotional problems</u>			
<u>nutritional problems</u>			
<u>life crisis</u>			
<u>other</u>			

Quantified Systems Data Guide - Social Service, Child Custody, Women's Services

Village A B C D (circle one)

Describe system:

Where is it?

Who maintains it?

How old is the system?

How reliable is it (is the information gathered and recorded in a uniform fashion)?

How valid is it (does it seem to reflect the reality of village life)?

Why was the system created and what kinds of questions can it answer?

Describe changes:

	BEFORE LO/ AFTER LO (numbers)		explanation/ description
<u>child abuse</u>			
<u>child neglect</u>			
<u>runaway child</u>			
<u>abandoned child</u>			
<u>sexual abuse victim</u>			
<u>physical abuse</u>			
<u>rape victim</u>			
<u>alcohol abuse</u>			
<u>drug abuse</u>			
<u>mental illness</u>			
<u>child relinquished to state</u>			

child removed from home			
other			

Quantified Systems Data Guide - Education

Village A B C D (circle one)

Describe system:

Where is it?

Who maintains it?

How old is the system?

How reliable is it (is the information gathered and recorded in a uniform fashion)?

How valid is it (does it seem to reflect the reality of village life)?

Why was the system created and what kinds of questions can it answer?

Describe changes:

	BEFORE LO/	AFTER LO	explanation/ description
truancy			
delinquency			
scholastic performance			
athletic performance			
participation in extra curricular activity			
health problems			
home problems			
alcohol use			
drug use			
other behaviors			

Interview Guide for Informants

Village A B C D (circle one)

Position in village:

1. How long have you been in or serving the region/village?
2. Who preceded you in office, back to 1980?
3. Is this person still in region/village?
4. How has the community changed since 1980?
5. How has the community changed since local option?
6. How does the community feel, as a place to live?
(safety, danger, alcohol presence, happy, etc.)
7. What kind of people in the community seem to be having problems, such as alcohol, violence, accidents, emotional problems, employment)? Are they kids, young adults, etc.?
8. Have these problems gotten better or worse in the last few years?
9. When was the local option law enacted?
10. What were the events or forces which led to local option?

11. What consequences were desired, anticipated, or feared by community members as a result of local option?
12. What positive changes have occurred since the local option election?
13. What negative changes have occurred since the local option election?
14. What unintended or surprising changes have occurred since the local option election?
15. How do you know that these changes have actually occurred? That is, what have you actually seen in terms of behavior and events and how do you relate that to the local option law?
16. Were these changes due directly to the law or other changes also occurring in the village? What are these changes?
17. Is it only village residents who are in a position to see these non-reported positive and negative changes?
18. How do you feel about the effectiveness of community actions about alcohol?
19. Are there people in the village who are opposed to the local option or would like to see it rescinded? Why are they opposed? Do you think the law will be rescinded?

20. Do you think that there is less alcohol used in the village since the local option?

21. Has the number of bad events related to alcohol gotten smaller since the local option election? For example,

	yes	no	how
<u>violence</u>			
<u>random shooting</u>			
<u>public drunkenness</u>			
<u>accidents</u>			
<u>fighting</u>			
<u>spouse abuse</u>			
<u>drug abuse</u>			
<u>school dropout</u>			
<u>others</u>			

	yes	no	how
<u>threats</u>			
<u>drunk driving</u>			
<u>bootlegging</u>			
<u>injuries</u>			
<u>stealing</u>			
<u>child abuse</u>			
<u>truancy</u>			
<u>bad council or corporate actions</u>			

22. Has the seriousness of bad events declined? (e.g., homicide, suicide)?

23. Has the number of people needing alcohol treatment changed? How?

24. Has the amount and local enforcement of local option and drunken behavior changed? How?

25. Has the number of people drinking outside of the village changed? How?

26. Whom else do you think I should talk to about all this?

**RURAL HEALTH ISSUES STUDY
AND
STATEWIDE SUICIDE EVALUATION PROJECT**

Executive Summary

Prepared by:

ALASKA NATIVE HEALTH BOARD, INC.
1135 West 8th Avenue, Suite 3
Anchorage, Alaska 99501

Michael A. Martin, Project Coordinator
Teresea A. Sappier, Associate
Bonnie L. Gabaldon, Associate
Dennis P. DeGross, Associate
Penelope Cordes, Associate
David Wigglesworth, Associate
Marvin Bailey, Associate

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PREFACE

This document represents a brief summary of the combined results of two studies authorized by the 1984 Alaska State Legislature. These are the Rural Health Issues Study and the Statewide Suicide Evaluation Project.

The Alaska Native Health Board was asked by the Legislature to evaluate recommendations made in *Alaska Native Health Care* in 1982 (a publication of the House Finance Committee) in light of policy and budget changes that have occurred since that document was published. Additionally, the Alaska Native Health Board was to expand the scope of the 1982 document to include rural health problems.

The Statewide Suicide Evaluation Project grew out of the Legislature's concern of a perceived suicide problem in Alaska. The report provides only a preliminary assessment of the extent of the problem.

The major page report on combined results of the Rural Health Issues Study and Statewide Suicide Evaluation Project is available through the Alaska Native Health Board. It provides findings on selected rural health-related issues. The report includes a compendium of program models being used in Alaska and elsewhere for prevention and intervention of suicide and other behavioral problems.

The Alaska Native Health Board did discover major weaknesses in the State's rural health care delivery system. The report makes policy recommendations crucial to the future needs of Alaska's public health system or paradigm. It calls for an innovative methodology for delivering public health services to rural Alaskans.

EXECUTIVE SUMMARY

The formal health care delivery system that now serves rural Alaskans originated during a time when the health status of rural Alaskans (largely Alaska Natives) was well below that of general populations in Alaska and the United States. Villages were being decimated by communicable diseases and chronic illness. The public health delivery system that evolved was crisis oriented. Its very purpose in being was to provide a medical model for the treatment of infectious diseases and acute illnesses.

The ANHB believes that public health, to a degree, has been captured by its very success. Infectious diseases, for instance, are not the threat to rural Alaskans they once were.

Nonetheless, results of the Rural Health Issues Study and Statewide Suicide Evaluation Project lead the ANHB to conclude that the overall health status of rural Alaskans continues to remain below the level of good health enjoyed by urban Alaskans and the general U.S. population. What has changed is that the types of health-related problems being experienced now are different.

Today, changing lifestyles and behavioral problems account for much of the ill health experienced by rural Alaskans.

As the rural areas of the State move from a subsistence to a cash economy, lifestyles change. People are getting less exercise, nutrition is sometimes poor, and far too many people are choosing to smoke and to use alcohol. As a result, diseases such as cancer and diabetes appear to be on the increase among Alaska Natives. Because of a lack of adequate data, less is known about the prevalence of these diseases among non-Native rural Alaskans.

Although dramatic improvements have been made, infant morbidity and mortality rates for rural Alaska continue to be considerably higher than those for urban Alaska. Pregnant women do not have universal access to good prenatal care or for hospital deliveries. Pregnant women some-

times have poor nutrition, they smoke while pregnant, and some choose to drink while pregnant. An especially important problem is the high rate of teenage pregnancies with associated high numbers of low birth weight babies being born.

Behavioral problems also manifest themselves in needlessly very high rates of injury and death from voluntary and involuntary acts of violence, including injuries and deaths involving all forms of motorized vehicles, fires, drownings, violent and abusive behaviors against self and others, including suicide gestures.

Results of the Statewide Suicide Evaluation Project revealed the following trends in suicide behaviors:

- Suicide attempts and completions occur more frequently among the Alaska Native population than among non-Native Alaskans.
- The peak year for suicide completions in Alaska was 1976, the year marking the height of rapid change in socio-economic conditions associated with oil exploration and development activities.
- While overall rates for suicide completions declined from 1976 to 1980, there are now some areas in the State where suicide completions have increased since the early 1980s.
- During the late 1960s and early 1970s, 25-34 year old Alaska Native males were highest at-risk for suicide. By the early 1980s, the highest at-risk group had become the 15-24 year old Alaska Native males.
- Suicide attempts in rural Alaska increased fourfold during the 1970s and early 1980s. Urban suicide attempts in Alaska increased twofold during the same time period.
- Rural suicide attempts occur at two times the rate of urban gestures.
- From 110 unvalidated community responses to a 1985 ANHB Suicide Survey, it would appear highest at-risk for attempting suicide are Alaska Native females and males in the approximate 15-24 age group.

Alcohol and its related behaviors remain the State's most significant health problem, affecting far too many rural communities. The behaviors are manifesting themselves in suicide gestures, injury and death from events involving vehicles, domestic violence, homicide, sexual assaults, depression, self-neglect, child abuse and neglect, employment problems, truancy, and school dropouts.

Crime statistics and anecdotal information suggest that drug abuse is also occurring in rural Alaska. However, because good data is not available, less is known about the extent of drug abuse and its possible implications in the myriad of violent and abusive behaviors described above.

Data shows that young rural Alaskans, and Alaska Natives in particular, in the approximate 15-24 age group are overrepresented in many of the negative health status indicators.

The above referenced behaviors and resulting health-related problems have two major elements in common. First, it appears that most occur more frequently among rural Alaskans. Secondly, the ANHB believes that — to a very large extent — all are preventable.

This last statement then leads one to wonder why these problems do exist and to such a great extent if, in fact, they are preventable.

As eluded to at the onset, the philosophy of the public health delivery system that serves rural Alaskans has always been and continues to be to provide treatment. The system is crisis oriented. From a medical standpoint, it served its purpose well. Infectious diseases, in fact, are not the problem they once were.

But, over the years new problems or "crises" arose and needs changed. Health problems became more behavioral in nature. As Mental Health, Alcohol, EMS and other response programs were developed and readied for implementation, unfortunate decisions were made to continue to adhere rather strictly to the once successful clinical model of providing treatment as opposed to initiating preventive measures to mitigate the potential for widespread negative effects from these behavioral problems.

Providing treatment only after a behavioral problem has become severe and only to select individuals ignores the fact that examples may have already been set that will be followed by family and community members. Unless people are provided with reliable, consistent information over time, behavioral problems can and do escalate and can, in fact, become inter-generational.

Urban areas are not totally unaffected by the kinds of behavioral and attitudinal problems being experienced in rural Alaska. These same problems are occurring in urban areas; however, they occur much less frequently among urban Alaskans on a per capita basis.

The ANHB believes the fact that both the federal and State governments failed to systematically fund adequate or appropriate behavioral health promotion and prevention activities for more than 30 years is partly responsible for many of the negative behavioral problems rural Alaskans in particular are now experiencing.

The Alaska State Legislature must declare the elevation of the health status of rural Alaskans as their highest priority. Strong emphasis should be placed on health promotion and the prevention of unnecessary illness, injury and death.

The Rural Health Issues Study and Statewide Suicide Evaluation Project revealed some major glitches in the very system that should be encouraging and promoting the kinds of prevention activities that need to take place to effect change. The ANHB believes, however, that these system problems are not insurmountable; they can and must be overcome.

Three initial legislative actions will be required to correct existing system deficiencies. They are: (1) creation of a State Office of Prevention; (2) establishment of a responsive rural health system; and (3) major improvements to State health data systems.

State Office of Prevention

Elevating the health status of a people — and thus reducing the need

for medical care and a myriad of ancillary and specialty services — can best be accomplished by aggressive health promotion and disease prevention activities.

At present, health promotion and disease prevention strategies are virtually non-existent in most villages. Local resources must be explored, developed and utilized. Communities must take responsibility for identifying problems, for establishing a priority among them, and for developing and implementing programs. Villages need technical assistance in carrying out these planning activities and to insure the ongoing success of local programs.

Health promotion is a specialty unto itself. It is, therefore, the consensus of the ANHB and the regional health programs it represents that a State Office of Prevention within the Department of Health and Social Services is essential. The State Office of Prevention should function strictly as a program funding office.

Existing prevention funds from various categorical divisions within DHSS should be combined with increased cigarette excise tax revenues to serve as a funding base for the State Office of Prevention. These funds should ultimately be made available to regional, municipal and local nonprofit organizations for long-term, wellness-based health promotion activities.

Emphasis should be on initiating health promotion and prevention activities in rural Alaska, where both the need and the cost of providing treatment are the greatest.

Priority should be given to funding health promotion and prevention activities to counteract those behavioral and attitudinal problems having the greatest negative impact on the health status of rural Alaskans.

Rural Public Health System

The ANHB recognizes that Alaska's public health needs vary from time to time and from place to place. It recognizes also the difficulties

inherent in providing services to a client group as varied as Alaska's and in an environment as vast as Alaska's. Rural Alaskans overwhelmingly argue they are currently underserved by the State's public health system.

As the State begins to shift its emphasis from treatment to the prevention of needless illness, injuries and death, the concept of a Rural Resource Center becomes increasingly important. As the State's Rural Resource Center, the ANHB will provide a central office to identify small community program models and to act as a clearinghouse for receipt and dissemination of new information to be shared with the twelve regions of the State.

The ANHB believes that public health must emphasize prevention and be community specific. Public health for rural Alaska must advocate community well-being. Above all, it must utilize local human resources. The ANHB is well prepared to serve as the organization to facilitate a shift in emphasis toward community empowerment.

The Alaska Federation of Natives, Inc. and the Alaska Public Health Association endorse the concept and need for a Rural Resource Center. AFN and ALPHA, by formal resolution, have requested that the ANHB be designated the State's Rural Resource Center and funds provided to establish the program.

Research and Health Data Systems

Morbidity and mortality data, along with social indicators, must be an integral part of any responsible public health care delivery system. Current, reliable data must be readily available to tell planners and responsible agencies what people are getting sick and dying from so appropriate program responses can be initiated. Current, reliable data is again needed to evaluate program effectiveness.

A reliable data system will become increasingly important and provide the impetus for program direction as the State moves toward a more complete embrace of health promotion and prevention. Current

mortality data is not readily available from DHSS. There are far too many areas where morbidity data is not routinely collected or reported in an organized or formal fashion.

The ANHB, therefore, recommends establishment of a statewide health data collection system to function at the regional level. Funds should be provided to maintain a collaborative network among the regions. In addition, the regional network should collect behavioral health statistics to allow for targeting prevention programs.

At present an impasse exists between the Alaska Department of Health and Social Services and health organizations concerning the ability of DHSS to provide timely access to accurate health data. The ANHB believes only legislative action can resolve the issue for both providers and users of vital health data.

The ANHB believes Alaska should examine results of epidemiology studies conducted elsewhere and, when necessary, begin new epidemiological studies of the major causes of morbidity and mortality in the State. These studies should begin to define risk factors and establish surveillance systems to allow for tracking the incidence of these injuries and deaths over time. The ANHB urges a public commitment to support these long-term research needs. Consideration should be given to using research guidelines presented in the American Public Health Association's National Arctic Health Science Policy.

SUICIDE

Data Needs

The ANHB recommends funds be appropriated for establishing a statewide health data system to function at the regional level and for a collaborative data network among the regions. The regional network should collect behavioral health statistics to allow for targeting suicide and other behavioral prevention programs.

The regional data bases need to include suicide morbidity and other evidence of self-destructive behavior, such as accidents, abuse, violence, etc.

The statewide network of regional health data bases needs to be linked with service. The ANHB believes such a regionally based data system would be invaluable for identifying those at highest risk for suicide. Education and consciousness raising at the village level can then be targeted to high risk people and communities identified by the regional data base systems.

Many professional health organizations in Alaska have called for the Legislature to shift the Bureau of Vital Statistics back to the Division of Public Health.

The ANHB recommends that sufficient funds be allocated to restore the Bureau of Vital Statistics to the operating level that existed prior to the dismantling of the Office of Information Systems.

The ANHB recognizes regrettably that an impasse now exists between the Alaska Department of Health and Social Services and professional health organizations concerning the needs of the Bureau of Vital Statistics. The ANHB requests a legislative audit be conducted to determine the health data needs of the State. The ANHB believes that only legislative action can resolve the issue for both the providers and users of vital data.

The ANHB recommends the Legislature mandate that Blood Alcohol Concentrations (BACs) on all violent deaths and self-inflicted injuries be checked as soon as possible after injury or death to determine possible involvement of alcohol. Results should then be reported to the Division of Public Health. The suspected strong correlation between alcohol and these activities may then be verified and prevention efforts targeted to appropriate audiences.

The ANHB recommends that regional research aides/assistants be trained to function at community and regional levels. Local residents, sensitive to cultural and related communications differences, may best assist regional and statewide researchers and planners.

Demonstration Projects in Communities

The ANHB recommends that funds be allocated for continuation of existing suicide demonstration projects and for the initiation of additional community suicide prevention projects.

As the State begins to formulate a response to the problem of suicides and suicide attempts, the primary emphasis should be on the prevention of suicide. Prevention must be viewed as equally as important as primary care and treatment. It should be the State's responsibility to encourage and assist communities in developing suicide prevention strategies.

Regional Training In Support of Communities

The regional health entities may consider the benefits of developing in-house trainers-of-trainers for subsequently assisting rural communities in addressing their own problems. Such assistance may be developed to address the various behavior related self-destructive activities plaguing Alaskans.

Economic Development

The ANHB recommends that State economic planners work with

villages to develop appropriate economic alternatives for the development of village-based jobs. According to observations of an American Psychiatric Association review team visit to Alaska in August 1985, feelings of a loss of control and suicide may be resulting from a lack of meaningful work in villages. Various general literature on suicide has cited meaningful employment as a primary suicide prevention activity.

Prepared by the Alaska Native Health Board, Inc. 17

PATIENT TRAVEL

The IHS is exploring ways of increasing the enrollment of IHS beneficiaries in public assistance entitlement programs. Therefore, the State should be prepared to see an increase in demand for Medicaid and GRM travel.

Medicaid and GRM remain crucial programs for providing access to health care in Alaska. However, due to substantial increases in travel costs and demand in the past year, the State's Division of Public Assistance is considering the elimination of coverage for routine diagnostic care. The ANHB believes such action could adversely affect the health status of rural Alaskans.

The data and the perception of need indicate a need for efforts to inform rural residents of their entitlements and to enroll eligible residents in programs which will enable them to qualify for Medicaid and GRM travel. Specifically, village fee agents need more instruction in outreach work to actively enroll eligible people. The Division of Public Assistance may require additional staff at regional centers to do outreach work and process applications.

Delays in activating Medicaid and GRM cause undesirable delay in delivering services. Medicaid can take up to two months to activate and requires monthly eligibility reports. GRM takes three days to two weeks to process an application which then must be reauthorized monthly. Since a person can only initiate an application when ill, it becomes a cumbersome process not adequately responsive for acute illnesses.

If travel to a regional hospital or urban hospital is authorized by Medicaid or GRM, the patient should be assured round-trip travel regardless of eligibility status on the day of discharge. Similarly, patients brought to Anchorage for treatment at the Alaska Psychiatric Institute (API) should be assured return travel to their villages regardless of discharge from API to an alcohol treatment center, hospital, or other facility or program.

ALCOHOL ABUSE

The Alaska State Legislature should ensure greater and improved coordination among programs dealing with alcohol abuse, domestic violence, sexual and physical abuse, mental health, suicide, accident prevention, etc. These efforts should include coordination of agency objectives, cross-training of village/community personnel and the achievement of complimentary programs. Reporting mechanisms should be uniform in nature and regionally coordinated for the purposes of planning, auditing, grant reporting and data collection.

Alcohol abuse is closely tied to low self-esteem and lack of appropriate coping skills. It is a community issue and must be treated holistically. A holistic approach should strive to upgrade the economic, social, educational and health conditions of each community and will require the cooperation of State agencies.

Education is the key to prevention. It should teach people to become aware of how they are conducting their lives, identify options realistically available to them, and encourage use of options available. Teachers should endeavor to educate students to become self-sufficient and serve as facilitators. Health curriculum should include the study of village culture, history, traditional coping and life skills from which to build positive self-esteem, healthy attitudes and lifestyles. Teachers should consist of respected Elders and certified staff. The use of Elders will validate local cultural values and provide positive role models for the students.

The ANHB recommends the Legislature mandate that Blood Alcohol Concentrations (BACs) on all violent deaths and self-inflicted injuries be checked as soon as possible after injury or death to determine possible involvement of alcohol. Results should then be reported to the Division of Public Health. The suspected strong correlation between alcohol and these activities may then be verified and prevention efforts targeted to appropriate audiences.

To validate the move toward community empowerment, communities

should be included in the development of substance abuse programs. The programs should include support systems that were traditionally used.

INFANT MORBIDITY AND MORTALITY

Providing early and continued prenatal care is perhaps the single most effective strategy for preventing infant deaths and other complications of pregnancy causing severe illness and disability to newborns. To bring about these savings, however, and to prevent infant death and disabilities, travel funds must be allocated so prenatal care and hospital deliveries are universally accessible.

The leading cause of infant morbidity and mortality in Alaska, as well as worldwide, is low birth weight. Some factors affecting low birth weight are known. These include smoking, use of alcohol, poor nutrition, and previous low birthweight pregnancies. Nutritional counseling should be made available during all prenatal visits and referrals made to WIC when indicated.

Providers need to be well trained to assess problems and make proper referrals in the case of teenage pregnancies.

Efforts to educate the public regarding pregnancy and the importance of early prenatal care should become part of any health promotion program in Alaska. Certainly efforts to educate the public about dangers associated with alcohol abuse and smoking should include the effects both have on the fetus.

The ANHB believes the subpopulation characteristics of drinking pregnant women need to be identified so that community health professionals can target prevention and intervention efforts to women most at risk. Health professionals should inquire routinely about patient alcohol consumption at every clinic visit, and counsel all women in the child-bearing ages about alcohol's effects. Identification on patient care records by qualified clinicians of women with previous FAS/FAE births would be a ready indicator of women and areas needing increased prevention efforts and the need for further evaluation of existing program efforts. These data would also serve to identify the extent of the problem of FAS/FAE in Alaska.

Health care providers should be encouraged to refer suspected FAS children to pediatricians, Public Health Service field physicians, or March of Dimes Genetics and Birth Defects Clinics for clinical diagnosis to determine the clinical manifestations of FAS in children and to provide a treatment plan that can be carried out to promote each child's optimum development.

Alcohol programs, public health personnel, physicians, Community Health Aides, special workers, teachers, etc. need to create an awareness of the problem of drinking during pregnancy. FAS prevention efforts should include targeting information to school age children.

ADOLESCENT HEALTH

Although adolescents look to the medical profession for assistance with pressing health questions, they are often faced with fragmented services and fears about the lack of confidentiality. Providers often feel uncomfortable or lack skills in working with adolescents. Baseline data is needed to begin establishing quality services for adolescents. These services can be incorporated by existing agencies.

There is a critical lack of treatment facilities for juvenile offenders.

Rural Alaska communities have no specific health programs aimed at adolescent health issues. Health education does exist in the school curriculum in rural Alaska, as in all public schools. Schools could work more closely with local and itinerant health care providers. Part of this coordination could include, but not be limited to, early detection of psychological, emotional and physical health care needs.

Research has shown that adolescents will seek advice and counsel from their peers. In keeping with these tendencies, peer counselors should be identified and taught adolescent counseling skills. The involvement of teenagers is paramount in the planning of such a program.

Presently, adolescent legal issues need to be defined on matters of justice, health care, incarceration in mental institutions and emancipation. The judicial system needs a legal clarification on the concrete definition of the term "adolescent." It is not clear if this definition means chronological or cognitive age.

Rural Alaskan youth will often complain of a lack of teen-related activities in the villages. Communities should foster a full range of constructive leisure time activities. These activities can include, but not be limited to cultural events, sports, local field trips, drama, etc.

CANCER

Among the data currently not being collected statewide in Alaska are cancer data. The ANHB believes that collecting cancer information relative to the statewide population is an urgent need. As the State's population ages, the incidence and types of cancer can be expected to increase. By beginning to track the disease now, policy for future needs can be determined more effectively. A population-based cancer registry for Alaska would allow for identification of the incidence of cancer, types of cancer, and provide the basis for programs to reduce known causes of cancer in Alaska.

3-WHEELER MORBIDITY AND MORTALITY

Potential risk factors involved in ATV-related injury and death include use of alcohol, failure to use helmets and other protective gear, rider inexperience and inattention, and excessive speed. These factors, as well as vehicle use patterns and vehicle characteristics, must be evaluated as part of a rational approach for planning suitable prevention strategies.

The ANHB recommends completion of the ongoing epidemiology study of ATV-related injury and death so appropriate legislation, if needed, can address all the risk factors involved.

Legislation requiring use of an approved helmet while riding any all-terrain vehicle would be an effective prevention strategy.

Without mandatory registration of vehicles, a helmet law would be difficult to enforce. Also, ATVs illegally using roadways or otherwise engaging in dangerous activities cannot be issued citations unless such vehicles can be identified.

The ANHB further recommends that any person 16 years of age or younger be required to complete a safe driving course before using any ATV on public lands in Alaska.

HAZARDOUS WASTE

No comprehensive source of information assesses the adverse effects of hazardous wastes and materials on rural health. This lack of information results from an inadequate data collection system and from the lack of necessary investigative capacity. Laboratory facilities, staff and equipment are all needed for the State to respond to hazardous materials and waste incidents in rural Alaska.

Additionally, Alaska's Department of Health and Social Services has no direct connection to the State's Hazardous Waste Program which is administered by the Department of Environmental Conservation (DEC). The result is that many incidents involving exposures to hazardous waste and otherwise toxic substances often go unrecorded and are not evaluated from a public health perspective.

Land disposal and conveyance proceedings in Alaska should include surveys of hazardous materials and wastes prior to land selections. If wastes and materials are discovered, the culpable party should be directed to clean up the site before lands are exchanged. If liability cannot be determined, the current owner of the property should be responsible for the clean-up, unless the involved parties agree to some other method.

The ANHB supports current efforts by DEC to develop a hazardous waste disposal system in Alaska. The system should emphasize alternatives to landfill disposal and should consider the unique needs of rural Alaska.

The ANHB believes rural areas must receive education in hazardous waste management, including hazardous waste treatment, storage, transportation, disposal, and information about handling.

Findings lead the ANHB to conclude there is a fundamental need for improved laboratory capabilities in Alaska. Hazardous waste sites typically present unknown chemical exposures to workers, enforcement officers, and the general public. The ill-defined nature of the contaminants requires detailed laboratory analysis. Precise knowledge of the toxins is necessary from a regulatory and public health standpoint.

Lack of in-state laboratory facilities limits DHSS' ability to fully investigate incidents involving hazardous wastes and materials to document health risks associated with human exposure.

Existing State regulations for intrastate transportation of hazardous materials were adopted in 1977 and modeled after outdated 1974 federal transportation regulations. Alaska's intrastate regulations are now inconsistent with current federal regulations governing interstate transport of hazardous materials and wastes.

In-depth analysis of hazardous materials transportation and storage practices in the Bush is critical in order to protect rural residents and to allow for proper emergency response planning.

The clean-up and disposal of hazardous wastes in rural Alaska is very costly. The ANHB sees merit to the establishment of a State Hazardous Materials Response Fund.

February 1985

ANALYSIS OF AVAILABILITY FACTORS
RELATED TO PER CAPITA ALCOHOL CONSUMPTION

For

THE ALASKA COUNCIL ON PREVENTION
OF ALCOHOL AND DRUG ABUSE, INC.
Anchorage, Alaska

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THE STATE OFFICE OF ALCOHOLISM AND DRUG ABUSE
DEPARTMENT OF HEALTH AND SOCIAL SERVICES
STATE OF ALASKA

Prepared by

P.C.H.S. GROUP
Pouch 3-6500 - #15A
Juneau, Alaska 99802

SUMMARY

DO ALCOHOL LAWS AFFECT ALCOHOL CONSUMPTION

Synopsis

In the simplest possible terms, this report indicates that:

- States with "strict," "tight," or "conservative" liquor laws have low per capita alcohol consumption.
- And, states with "permissive," "loose," or "liberal" liquor laws have high per capita alcohol consumption rates.

The factors which apparently most affect per capita consumption are:

- The cost of alcohol.
- The hours in which alcohol is available for sale.
- The number of outlets in which alcohol may be purchased.

Background and Reason for this Research

This report is a small part of an intensive two-year study by the Alaska Council on Prevention of Alcohol and Drug Abuse, Inc., to determine if Alaska's liquor laws and policies were in any way responsible for that state's inordinately high per capita alcohol consumption rate.

Much research has been done on the relationship of individual factors in affecting per capita consumption, and/or attempting to tie in one factor or another with a specific type of health disorder or crime problem.

Only one piece of research attempted to look at the overall liquor policies of a specific state as they relate to per capita alcohol consumption. In 1975, Dr. Reginald Smart of the Addiction Research Foundation in Toronto, developed an "availability score" by assigning weights to a variety of factors. He has proved that states with a high "availability score" (e.g. Alaska) had high per capita alcohol consumption rates. States which had low scores on his "availability scale" (e.g. North Carolina) had low per capita alcohol consumption levels.,

The 1975 Smart Study, which was cited as "an overwhelming preponderance of scientific evidence," indicated a direct correlation between availability factors and per capita consumption. However, any attempt to change liquor laws to moderate alcohol availability anywhere is always challenged with the statement that the specific factor under discussion cannot be proven to have any specific effect. This research attempted to find the specific effect.

Methodology

The following factors were considered in an attempt to learn how much each of these factors influences per capita alcohol consumption in each of the 50 states and the District of Columbia.

- Minimum drinking age.
- Per capita income.
- Hours per week that alcohol may be purchased.
- Number of outlets which sell alcohol per population.
- Whether alcohol is sold through licensed, independent retail outlets or a state monopoly.

Baseline data was accumulated for each state, for the year 1980. Regression analysis, a commonly-used statistical technique, was utilized with a formula designed to indicate how much each of these factors influenced per capita consumption.

In the final analysis:

- Minimum drinking age does not seem to affect the per capita consumption rate.
- Having individual licensees rather than a state monopoly does not seem to affect the per capita consumption rate.
- Per capita income does affect per capita consumption. Every \$1,000 of per capita income indicates additional consumption of approximately one quart of alcohol.
- The cost of alcohol does directly affect consumption. Each additional dollar of cost reduces consumption by more than a quart.
- The number of outlets does affect consumption. One point of logarithmic difference will decrease per capita consumption by .39 gallons.

Conclusions

There are many demographic variables which influence per capita consumption, that cannot be changed by legislation. For example, per capita income is a variable that would be of little help to decision makers in attempts to reduce per capita consumption.

Should any political jurisdiction wish to lower its per capita consumption level, the three most influential factors to be considered are:

- Cost of alcohol
- Number of outlets
- Hours of availability

ANALYSIS OF AVAILABILITY FACTORS RELATED TO PER CAPITA ALCOHOL CONSUMPTION

Introduction

The analysis described below represents an effort to understand how per capita alcohol consumption may be related to a small set of potential influences, most of which are directly affected by alcohol laws or policies. Specifically, we wish to explore whether any of the following characteristics are connected to per capita alcohol consumption:

- The minimum drinking age.
- The cost of liquor.
- Per capita income.
- The number of hours per week that an outlet is allowed to operate and serve alcohol.
- The density of alcohol outlets within a population.
- Whether a state controls alcohol sales through alcohol licenses or instead through a state monopoly.

Our goal is to be able to summarize how much each of these factors contributes to alcohol consumption.

Method

The method used is regression analysis. A commonly-used technique, regression analysis takes the phenomenon that is the center of concern (for us, per capita alcohol consumption) and expresses it as a function of several influences or factors added together. In our analysis, we can show this relationship as:

$$\text{Alcohol Consumption} = \text{Drinking Age} + \text{Age} + \text{Cost} + \text{Per Capita Income} + \text{Hours per Week} + \text{Density} + \text{License State}$$

As it stands, the expression above implies that one would just add all the factors together, as they are. However, we can anticipate that some of the factors will be more influential than others. Perhaps the density of outlets has a greater effect on alcohol consumption than whether a state has a monopoly on a alcohol sales. A more accurate way to show the equation above would then be:

$$\text{Alcohol Consumption} = W(1) \text{ Drinking Age} + W(2) \text{ Cost} + W(3) \text{ Per Capita Income} + W(4) \text{ Hours per Week} + W(5) \text{ Density} + W(6) \text{ License State}$$

The "W's" represent the weights that can be assigned to each of the factors, and are one way to tell how "strong" each one is when compared to the others. A weight of zero, for instance, would mean that the factor had no influence on alcohol consumption, and could be left out of the equation altogether.

The regression analysis will determine these weights by taking data for alcohol consumption and the other factors from each state (and the District of Columbia). Computing the weights results in a single equation which gives the best fit possible when applied to the full set of states. Before we can really accomplish this, however, we need to describe each of the factors in the equation in a way that will permit the statistical analysis we have just described.

Measures Used in the Analysis

Table 1 lists each of the factors for which data were collected, an abbreviation and a short description of how it is defined or computed. Table 2 shows the values of these variables for the 50 states and the District of Columbia.

Tables 3 through 9 show the frequency distributions and descriptive statistics for each of the variables we have defined. (1) Their purpose is to better inform us of the quantitative properties of these variables and to alert us to anything that may seem out of keeping with our expectations. In that regard, two tables require a closer look.

First, Table 3 (per capita alcohol consumption) shows three cases as having unusually high consumption rates when compared to the others. We can see that they are New Hampshire (5.35 gallons), District of Columbia (5.7) and Nevada (6.18). There is, in fact, a large gap between these three cases and the fourth highest rate, Alaska (4.04). These high rates can be plausibly attributed to out-of-state drinkers whose numbers, of course, are not figured into the per capita consumption rates, but whose numbers are large enough relative to the small populations of those states to throw the consumption rates off. We must, therefore, regard these three cases as poor measures. Should these three cases be then eliminated from further analysis? No, because while this one, admittedly important, variable is not valid for these cases, the information the cases convey about the relationships among all the other variables is not likely to be so affected and will thus improve the utility of the overall "equation" that we are trying to construct.

Table 9 also requires some attention. Here, in the distribution of the people per license measure, we have several states that "trail out" at the high end of the measure (say, those states with more than 1800 people per license). Not only that, but we see that most of the states are clumped at the low end of the range. The problem here is not that the measures may be inaccurate, but it is rather a technical issue that requires us to do something to "even out" the distribution of cases over the range. If we do not, the regression analysis itself is likely to be a much poorer fit to our data and our weights are less likely to reflect their proper values.

Unfortunately, the solution to this technical problem makes our discussion a little bit confusing for laymen. Instead of using "people per license" as one

of our factors, we must instead use the (natural) logarithm of that number. In the case of Alabama, for instance, we would compute the log of 1771 to get 7.4793. It is important to see that this recalculation does not alter the relative standing of any state with respect to the others. Wisconsin still has the lowest number, North Carolina having the highest. Table 10 shows the frequency distribution of the new variable (called LOGPPLIC) and while it still has a longish tail at the high end of the range, it is much less strung out than the original variable. From this point on, then, we will be using the log of people per license in all discussion.

Finally, as an experiment, another variable was constructed to show the relative cost (RELCOST) of alcohol in a given state. Naturally, this new number can easily be constructed by dividing COST by INCOME. The resulting ratio can then be compared across states (see Table 11). Our interest in this variable will depend on its utility in our analysis, as we shall discuss below. Table 12 lists all the variables that have been described for each of the 50 states and the District of Columbia.

Simple (Bivariate) Relations Between Factors and Per Capita Alcohol Consumption

Figures 1 through 7 give us a first look at how each of the factors may be related to alcohol consumption. In each case, per capita consumption is plotted against one of our factors (2). Figure 1, for example, compares consumption rates for states with different minimum drinking ages. Leaving aside our three "outliers" at the top of the graph, we can see that there is no obvious change in consumption levels across the different groups of states. Figure 5, though, does suggest that consumption rates are lower in those states with higher numbers of people per license. Though suggestive, these figures cannot really tell us how the factors are related to per capita consumption when considered all at one time. This is why regression analysis is useful.

Preliminary Regression Model

Returning to the idea of expressing consumption as a function of our factors added together, we would like to find the weights associated with each of those factors such that: (3)

$$\text{PC_CNSMP} = W(1)\text{INCOME} + W(2)\text{COST} + W(3)\text{HRS_WK} + W(4)\text{LOGPPLIC} \\ + W(5)\text{AGE} + W(6)\text{LICSTATE}$$

Table 13 shows the results and the summary measures for the regression analysis. The analysis reveals that neither AGE nor LICSTATE is sufficiently related to per capita alcohol consumption to warrant its inclusion. This suggests that we recalculate the other weights with those variables left out. Table 14 shows the result.

Table 14 represents the major results for this analysis. What it says is that the following equation may be taken to represent the relationship of alcohol consumption to the set of factors influencing it:

$$PC_CNSMP = 4.41 + .26 INCOME - .30 COST + .01 HRS_WK - .39 LOGPPLIC$$

This equation tells us how much each of the factors contributes to per capita consumption. Per capita income, measured in thousands of dollars, increases consumption by .26 gallons (about a quart) when all other factors are, so to speak, held constant. For every dollar (per 750 ml) that liquor costs, per capita consumption decreases by .30 gallons. Similarly, every additional hour per week that alcohol is available increases consumption by .01 gallon. Next, and just a little bit more difficult to interpret, each single point increase in the logarithm of people per license decreases per capita consumption by .39 gallon. To illustrate the sense of this last figure, we can see (in Table 12) that a one-point difference in logarithms corresponds roughly to the difference between Colorado (with 602 people per license) and Georgia (with 1679 people per license), or Washington (1,486 people per license) and North Carolina (3939 people per license).(4) Finally, the number 4.41 is added into the equation so that when all the weighted factors are added to it, the result is a predicted level of per capita consumption. If the predicted level of consumption comes close to what we know it to be, we have greater confidence that the weights we calculated are valid. For example, if we took the data for Maine and inserted them into the right half of our equation, we would get:

$$\begin{aligned} \text{(Predicted) } PC_CNSMP &= 4.41 + .26 (7.87) - .30 (6.90) + \\ &\quad .01 (115) - .39 \log (873) \end{aligned}$$

Which gives an answer of 2.83 gallons (when not rounding off the numbers). Since Maine's actual per capita rate of consumption is 2.81 gallons, we have an excellent fit. The worst fit, not surprisingly, is for New Hampshire, where the equation predicts a rate of 3.50 gallons whereas the rate (inflated, we have surmised) for that state is given as 5.35 gallons.(5)

The language used in the last paragraph, while helpful for interpreting the numbers, is a bit misleading. We may say that every thousand dollars of income gives an increase of a quart of alcohol, but we really do not have the kind of data to support the statement literally. That is, we cannot say that were we to raise the per capita income in a state by a thousand dollars we would increase consumption by an extra quart of alcohol. Instead, we are summarizing how all of these factors are to be found together with things as they stand now. States that presently have a per capita income of a thousand dollars more than another will also consume more alcohol--about a quart more per person over fifteen years of age.

A second point to be emphasized here is that the data are measures of state characteristics and should not be confused by analogy to an individual level. We cannot say here, for example, that giving a person an extra thousand dollars will result in his or her consuming an additional quart of alcohol. While our regression equation is suggestive of how individuals may behave, a much more extensive effort would be required to look into what happens for individual people.

Excursion: Relative Cost

Table 15 shows the results when a regression is done using relative cost (RELCOST) instead of income and cost separately. The prediction equation in this case would be:

$$\begin{aligned} \text{(Predicted) PC_CNSMP} &= 6.62 + .01 \text{ HRS_WK} - .40 \text{ LOGPPLIC} \\ &\quad - 2.53 \text{ RELCOST} \end{aligned}$$

Where, again, relative cost is obtained by dividing COST by INCOME. Looking back to Table 12, we can insert the numbers for Wyoming, for instance, to get:

$$\text{(Predicted) PC_CNSMP} = 6.62 + .01 (130) - .40 (6.26) - 2.53 (.61)$$

And get a value of 3.61 gallons (without rounding) compared to the actual figure of 3.60 gallons, a good fit, especially when compared to District of Columbia, where the predicted rate is 3.84 gallons compared to our (suspect) actual rate of 5.70 gallons.

While there is certainly no reason not to use this last regression equation, it really gives us no advantages over the former one. Either model fits the data as well as the other when one looks at the F Value, R-Squared and Root Mean Square Error values. Since using income and cost directly has an intuitive appeal over combining them into a different measure, we are better off using the equation with those terms included directly.(6)

To summarize our look at the regression equations, Table 16 lists, for each state, its actual per capita consumption rate and its predicted rate for each of the three equations described in Tables 13, 14 and 15. Beside each consumption rate (actual or predicted) is the rank, from highest to lowest consumption, that the state has in each case. Comparing these values across the columns shows us: 1) Where actual rates are poorly or well fit by any of the regression equations, and 2) Which of the equations best predicts a given state's rate of per capita consumption. Overall, none of the equations is measurably better at ranking the states than the other two.(7)

On a closing note, we will describe one more way in which the weights in our primary equation (from Table 14) may be regarded. From our previous discussion of that equation, we learned that per capita consumption is related almost equally to a change in per capita income of \$1,000 or a cost difference of \$1.00. Either factor can change per capita consumption by about a quart of absolute alcohol. Comparing the other factors, hours per week and log of people per license particularly, is more difficult. The problem lies in trying to compare apples to oranges, or dollars to log people per license. When asking for a guide to how "strongly" each of the factors is related to per capita consumption in the abstract and without regard to their units of measurement, we can compute what are known as "standardized" estimates of our "weights." When computed for our primary regression equation, these standardized weights are:

INCOME	.38
COST	-.23
HRS WK	.25
LOGPPLIC	-.27

Though it is not technically correct to do so, these numbers are often looked at as an approximation to how relatively influential each of the factors is. Income, then, has a bit greater influence than density of outlets followed by operating hours and cost of liquor. But these are rough approximations that are heavily dependent on features of the factors beyond their relationship to per capita consumption.

Conclusion

We have derived a preliminary estimate of how a small set of factors is related to alcohol consumption at the state level. In particular, we found that we can predict per capita alcohol consumption by calculating, for a given state:

$$\begin{aligned} \text{(Predicted) PC_CNSMP} &= 4.41 + .26 \text{ INCOME} - .30 \text{ COST} + .01 \\ &\quad \text{HRS_WK} - .39 \text{ LOGPPLIC} \end{aligned}$$

The weights, or coefficients, tell us how strongly each factor is related to per capita consumption when the other factors are (statistically) held constant. Overall, the equation results in a fairly good fit to the data we have, resulting in a multiple correlation of .72.(8)

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- (1) Note: All computer output is included here for completeness. We will not take the space here to describe how to read all of it.
 - (2) Each chart will also highlight (at the top of each page) those three unusual cases (NV, DC, & NH) with high consumption rates.
 - (3) Note: The order of factors in this case is not crucial, but the tables included with this report have a certain order of variables that we wish to duplicate for the sake of clarity.
 - (4) Note that a single point on the logarithmic scale does not equal a fixed number of people per license.
 - (5) It is quite likely that our "predicted" rate is closer to the mark than the number given by the original data.
 - (6) Including all three variables (income, cost and relative cost) reduces the overall fit of the equation and makes the individual weights less reliable

to boot. Besides, RELCOST is redundant when the other two variables are included.

- (7) Correlations with actual ranks are .73 for the equation in Table 13; .72 for the equation in Table 14; and .71 for the equation in Table 15.
- (8) This number is calculated by taking the square root of R-Squared in Table 14. It ranges from 0 to 1.00 and provides a guide to how well the equation predicts the level of per capita alcohol consumption.

Table 1

Original Variables Used in the Analysis

<u>Variable</u>	<u>Abbrev.</u>	<u>Source</u>
Per Capita Consumption	PC_CNSMP	Calculated using figures published by the Distilled Spirits Council of the United States as the Annual Statistical Review for the Year 1980. Beer, wine, and distilled spirits have been translated by alcohol content to reflect gallons of absolute alcohol.
Minimum Drinking Age	AGE	From compendium of state laws published by the Distilled Spirits Council of the United States. Some states permit purchase of beer at a lower age than used in this analysis.
Cost of Liquor	COST	From the Distilled Spirits Council of the United States actual survey of nine identical brands in 750 ml sizes for 1980.
Per Capita Income	INCOME	Given in \$1,000 units of per capita personal income of individuals for 1980. From United States Bureau of Economic Analysis Survey of Current Business, published in April of 1982.
Hours of Operation	HRS_WK	Modal maximum hours per week in which alcohol may be sold in a given state. Local option, special exemptions for "resorts", and differences for on and off sale hours are not figured in.

¹ See James Mosher and Dan Beauchamp's article "Justifying Alcohol Taxes to Public Officials" in the Journal of Public Health Policy, December, 1983 for a discussion of how these numbers are calculated

<u>Variable</u>	<u>Abbrev.</u>	<u>Source</u>
License State	LICSTATE	Coded "1" if state uses liquor licenses to control alcohol sales, "0" if state has a monopoly on sales.
Density of Outlets	PPLIC	From the Distilled Spirits Council of the United States Annual Statistical Review for the Year 1980. These figures represent the number of people per license, a measure of the density of sales outlets.

Table 2

Values for Original Variables Used in the Analysis

STATE	PC_CNSMP	AGE	COST	INCOME	HRS_WK	PPLICS	LICSTATE
AL	1.95	19	7.32	7.434	108.0	1771	0
AK	4.04	19	9.94	12.759	147.0	364	1
AZ	3.28	19	7.79	8.814	126.0	688	1
AR	1.90	21	7.92	7.185	108.0	1864	1
CA	3.62	21	7.05	10.929	140.0	962	1
CO	3.57	21	6.98	10.033	126.0	602	1
CT	2.87	19	8.03	11.692	115.0	605	1
DE	3.33	20	7.18	10.291	96.0	650	1
FL	3.51	19	7.48	8.993	119.0	1276	1
GA	2.54	19	7.54	8.041	94.5	1679	1
HI	3.50	18	8.25	10.091	140.0	540	1
ID	2.75	19	7.71	8.176	90.0	949	0
IL	3.07	21	6.69	10.479	140.0	574	1
IN	3.23	21	7.73	8.924	134.5	856	1
IA	2.35	19	7.15	9.310	120.0	602	0
KS	2.04	21	7.76	9.864	90.0	1049	1
KY	2.00	21	7.58	7.662	96.0	1660	1
LA	2.84	18	7.35	8.456	168.0	460	1
ME	2.81	20	6.90	7.868	115.0	873	0
MD	3.27	21	6.80	10.477	120.0	874	1
MA	3.40	20	7.41	10.118	114.0	722	1
MI	2.80	21	7.14	9.967	128.0	695	0
MN	3.00	19	7.71	9.765	102.0	987	1
MS	2.20	21	6.89	6.557	84.0	2023	0
MO	2.44	21	6.74	8.865	108.5	589	1
MT	3.37	19	7.90	8.652	126.0	479	0
NE	2.78	20	7.53	9.086	121.0	520	1
NV	6.18	21	6.93	10.723	168.0	373	1
NH	5.35	20	6.17	9.119	120.0	877	0
NJ	3.00	21	7.96	10.935	91.0	646	1
NM	3.05	21	7.96	7.876	124.0	847	1
NY	3.05	18	7.46	10.252	136.0	636	1
NC	2.28	21	7.11	7.832	123.5	3939	1
ND	2.96	21	8.03	8.626	102.0	543	1
OH	2.44	21	7.43	9.480	119.0	878	0
OK	2.10	21	5.88	9.066	72.0	3823	1
OR	2.98	21	8.39	9.296	136.5	1503	0
PA	2.51	21	7.90	9.427	133.0	600	0
RI	3.32	20	7.31	9.429	127.0	545	1
SC	2.59	21	7.25	7.265	60.0	1189	1
SJ	2.69	21	8.47	7.818	114.0	470	1
TN	2.01	19	8.77	7.702	129.0	3048	1
TX	2.95	19	7.98	9.528	116.0	1356	1
UT	1.80	21	7.81	7.681	72.0	3532	0
VT	3.50	18	6.33	7.810	123.0	456	0
VA	2.52	21	6.77	9.406	120.0	2615	0
WA	3.17	21	8.37	10.355	140.0	1486	0
WV	1.90	18	7.34	7.814	142.0	1405	0
WI	3.73	18	7.12	9.413	119.0	329	1
WY	3.60	19	7.90	10.876	130.0	524	0
DC	5.70	21	7.33	12.050	131.0	650	1

243

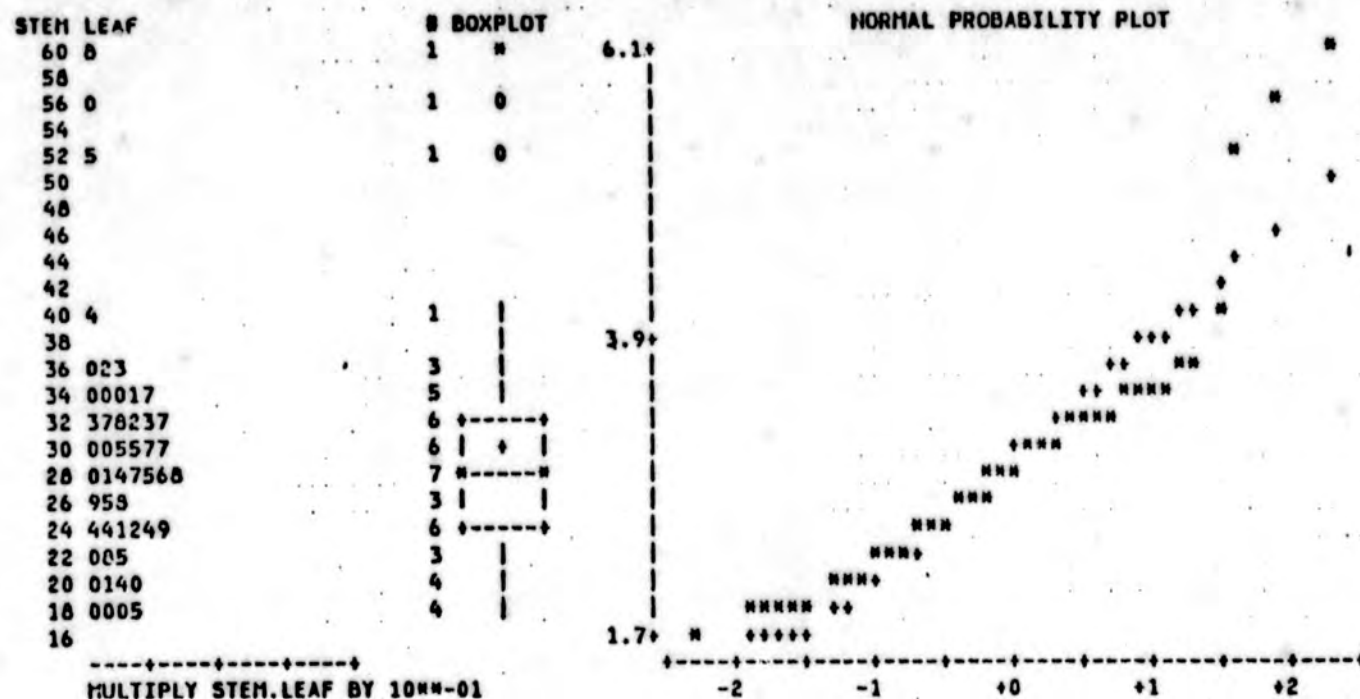
UNIVAR:ATE

VARIABLE=V8

PC_CNSMP

TABLE 3

MOMENTS				QUANTILES(DEF=4)				EXTREMES			
N	51	SUM WGT5	51	100% MAX	6.18	99%	6.18	LOWEST	ID	HIGHEST	ID
MEAN	3.01647	SUM	153.84	75% Q3	3.37	95%	5.49	1.8(UT	)	3.73(WI	)
STD DEV	0.885005	VARIANCE	0.783375	50% MED	2.96	90%	3.708	1.9(AR	)	4.04(AK	)
SKEWNESS	1.63764	KURTOSIS	3.98786	25% Q1	2.44	10%	2.002	1.9(MV	)	5.35(MI	)
USS	503.223	CSS	39.1688	0% MIN	1.8	5%	1.9	1.95(AL	)	5.7(DC	)
CV	29.3417	STD MEAN	0.123937			1%	1.8	2(KY	)	6.18(MV	)
T:MEAN=0	24.3388	PROB> T	0.0001	RANGE	4.38						
SGH RANK	663	PROD> S	0.0001	Q3-Q1	0.93						
NUM = 0	51			MODE	1.9						
D:NORMAL	0.149615	PROB>D	<0.01								



FREQUENCY TABLE

PERCENTS				PERCENTS				PERCENTS				PERCENTS			
VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM
1.8	1	2.0	2.0	2.44	2	3.9	25.5	2.84	1	2.0	45.1	3.27	1	2.0	68.6
1.9	2	3.9	5.9	2.51	1	2.0	27.5	2.87	1	2.0	47.1	3.28	1	2.0	70.6
1.95	1	2.0	7.8	2.52	1	2.0	29.4	2.95	1	2.0	49.0	3.32	1	2.0	72.5
2	1	2.0	9.8	2.54	1	2.0	31.4	2.96	1	2.0	51.0	3.33	1	2.0	74.5
2.01	1	2.0	11.8	2.59	1	2.0	33.3	2.98	1	2.0	52.9	3.37	1	2.0	76.5
2.04	1	2.0	13.7	2.69	1	2.0	35.3	3	2	3.9	56.9	3.4	1	2.0	78.4
2.1	1	2.0	15.7	2.75	1	2.0	37.3	3.05	2	3.9	60.8	3.5	2	3.9	82.4
2.2	1	2.0	17.6	2.78	1	2.0	39.2	3.07	1	2.0	62.7	3.51	1	2.0	84.3
2.28	1	2.0	19.6	2.8	1	2.0	41.2	3.17	1	2.0	64.7	3.57	1	2.0	86.3
2.35	1	2.0	21.6	2.81	1	2.0	43.1	3.23	1	2.0	66.7	3.6	1	2.0	88.2

UNIVARIATE

VARIABLE=V8

PC_CHSHP

FREQUENCY TABLE (CONT.)

VALUE	COUNT	PERCENTS CELL	CUM
3.62	1	2.0	90.2
3.73	1	2.0	92.2

VALUE	COUNT	PERCENTS CELL	CUM
4.04	1	2.0	94.1
5.35	1	2.0	96.1

VALUE	COUNT	PERCENTS CELL	CUM
5.7	1	2.0	98.0
6.10	1	2.0	100.0

Table 4
Frequency of Minimum Drinking Age

<u>Age</u>	<u>Freq</u>	<u>Cumulative Freq</u>	<u>Percent</u>	<u>Cum Percent</u>
18	6	6	11.8	11.8
19	13	19	25.5	37.3
20	6	25	11.8	49.0
21	26	51	51.0	100.0

SAS

UNIVARIATE

VARIABLE=V3

COST

TABLE 5

MOMENTS				QUANTILES(DEF=4)				EXTREMES			
N	51	SUM WGTs	51	100% MAX	9.94	99%	9.94	LOWEST	ID	HIGHEST	ID
MEAN	7.49882	SUM	382.44	75% Q3	7.9	95%	8.59	5.88(OK)	)	8.37(HA)	)
STD DEV	0.602805	VARIANCE	0.466223	50% MED	7.46	90%	8.346	6.17(IH)	)	8.39(OR)	)
SKEWNESS	0.606897	KURTOSIS	2.48511	25% Q1	7.11	10%	6.746	6.33(VT)	)	8.47(SD)	)
USS	2891.16	CSS	23.3111	0% MIN	5.88	5%	6.266	6.69(IL)	)	8.77(TN)	)
CV	9.10549	STD MEAN	0.0956118			1%	5.88	6.74(MO)	)	9.94(AK)	)
T:MEAN=0	78.4299	PROB> T	0.0001	RANGE	4.06						
SGN RANK	663	PROB> S	0.0001	Q3-Q1	0.79						
NUM ^= 0	51			MODE	7.9						
D:NORMAL	0.100657	PROB>D	>0.15								

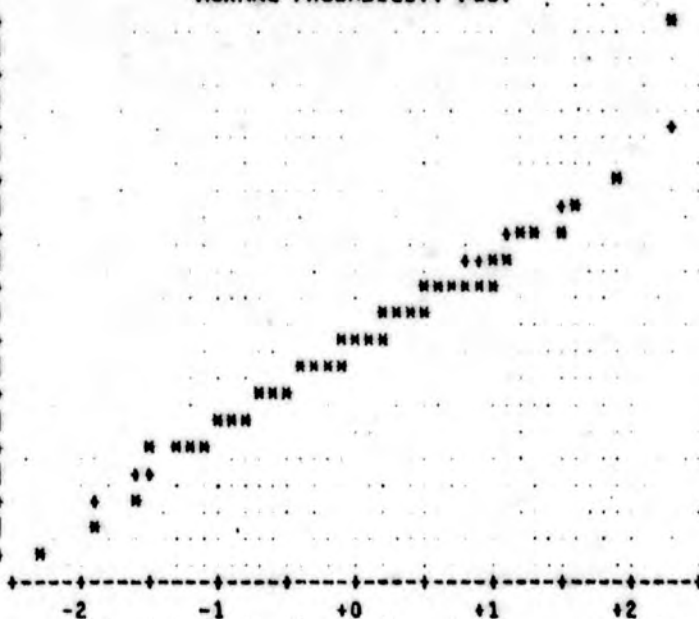
STEM LEAF

BOXPLOT

NORMAL PROBABILITY PLOT

98 4	1	0	9.9+
96			9.5+
94			9.1+
92			
90			
88			
86 7	1		8.7+
84 7	1		
82 579	3		8.3+
80 33	2		
78 10002668	8	-----	7.9+
76 11369	5		
74 1368348	7	-----	7.5+
72 512345	6		
70 512458	6	-----	7.1+
68 09038	5		
66 947	3		6.7+
64			
62 3	1		6.3+
60 7	1		
58 8	1	0	5.9+

MULTIPLY STEM.LEAF BY 1000-01



FREQUENCY TABLE

PERCENTS				PERCENTS				PERCENTS				PERCENTS			
VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM
5.88	1	2.0	2.0	7.11	1	2.0	25.5	7.43	1	2.0	49.0	7.92	1	2.0	78.4
6.17	1	2.0	3.9	7.12	1	2.0	27.5	7.46	1	2.0	51.0	7.96	2	3.9	82.4
6.33	1	2.0	5.9	7.14	1	2.0	29.4	7.48	1	2.0	52.9	7.98	1	2.0	84.3
6.69	1	2.0	7.8	7.15	1	2.0	31.4	7.53	1	2.0	54.9	8.03	2	3.9	88.2
6.74	1	2.0	9.8	7.18	1	2.0	33.3	7.54	1	2.0	56.9	8.25	1	2.0	90.2
6.77	1	2.0	11.8	7.25	1	2.0	35.3	7.58	1	2.0	58.8	8.37	1	2.0	92.2
6.8	1	2.0	13.7	7.31	1	2.0	37.3	7.71	2	3.9	62.7	8.39	1	2.0	94.1
6.89	1	2.0	15.7	7.32	1	2.0	39.2	7.73	1	2.0	64.7	8.47	1	2.0	96.1
6.9	1	2.0	17.6	7.33	1	2.0	41.2	7.76	1	2.0	66.7	8.77	1	2.0	98.0
6.93	1	2.0	19.6	7.34	1	2.0	43.1	7.79	1	2.0	68.6	9.94	1	2.0	100.0
6.98	1	2.0	21.6	7.35	1	2.0	45.1	7.81	1	2.0	70.6				
7.05	1	2.0	23.5	7.41	1	2.0	47.1	7.9	3	5.9	76.5				

SAS

UNIVARIATE

VARIABLE=V4

INCOME

TABLE 6

MOMENTS				QUANTILES(DEF=4)				EXTREMES			
N	51	SUM HGTS	51	100% MAX	12.759	99%	12.759	LONEST	ID	HIGHEST	ID
MEAN	9.22092	SUM	470.267	75% Q3	10.110	95%	11.0352	6.557(MS	)	10.929(CA	)
STD DEV	1.33462	VARIANCE	1.78121	50% MED	9.296	90%	10.9104	7.185(AR	)	10.935(HJ	)
SKEWNESS	0.344575	KURTOSIS	-0.102577	25% Q1	7.076	10%	7.6658	7.265(SC	)	11.692(CT	)
USS	4425.36	CS	89.0605	0% MIN	6.557	5%	7.233	7.434(AL	)	12.05(DC	)
CV	14.4738	STD MEAN	0.186884			1%	6.557	7.662(KY	)	12.759(AK	)
T:MEAN=0	49.3403	PROB> T	0.0001	RANGE	6.202						
SGN RANK	663	PROB> S	0.0001	Q3-Q1	2.242						
IUM = 0	51			MODE	6.557						
D:NORMAL	0.0981073	PROD>D	>0.15								

STEM LEAF

```

12 8
12 0
11 7
11
10 557999
10 0011334
9 5589
9 0111334444
8 567899
8 02
7 777080899
7 234
6 6

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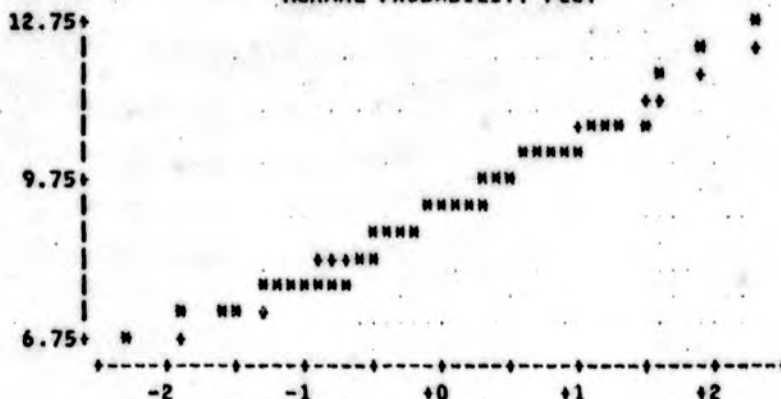
BOXPLOT

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1 |
1 |
1 |
6 |
7 |-----+
4 |-----+
10 |-----+
6 |-----+
2 |-----+
9 |-----+
3 |-----+
1 |-----+

```

NORMAL PROBABILITY PLOT



FREQUENCY TABLE

PERCENTS				PERCENTS				PERCENTS				PERCENTS			
VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM
6.557	1	2.0	2.0	8.041	1	2.0	27.5	9.31	1	2.0	52.9	10.252	1	2.0	78.4
7.185	1	2.0	3.9	8.176	1	2.0	29.4	9.406	1	2.0	54.9	10.291	1	2.0	80.4
7.265	1	2.0	5.9	8.456	1	2.0	31.4	9.413	1	2.0	56.9	10.355	1	2.0	82.4
7.434	1	2.0	7.8	8.626	1	2.0	33.3	9.427	1	2.0	58.8	10.477	1	2.0	84.3
7.662	1	2.0	9.8	8.652	1	2.0	35.3	9.429	1	2.0	60.8	10.479	1	2.0	86.3
7.681	1	2.0	11.8	8.814	1	2.0	37.3	9.48	1	2.0	62.7	10.723	1	2.0	88.2
7.702	1	2.0	13.7	8.865	1	2.0	39.2	9.528	1	2.0	64.7	10.876	1	2.0	90.2
7.81	1	2.0	15.7	8.924	1	2.0	41.2	9.765	1	2.0	66.7	10.929	1	2.0	92.2
7.814	1	2.0	17.6	8.993	1	2.0	43.1	9.864	1	2.0	68.6	10.935	1	2.0	94.1
7.818	1	2.0	19.6	9.066	1	2.0	45.1	9.967	1	2.0	70.6	11.692	1	2.0	96.1
7.832	1	2.0	21.6	9.086	1	2.0	47.1	10.033	1	2.0	72.5	12.05	1	2.0	98.0
7.868	1	2.0	23.5	9.119	1	2.0	49.0	10.091	1	2.0	74.5	12.759	1	2.0	100.0
7.876	1	2.0	25.5	9.296	1	2.0	51.0	10.110	1	2.0	76.5				

SAS

TABLE 7

UNIVARIATE

VARIABLE=V5

MRS_MK

MOMENTS

QUANTILES(DEF=4)

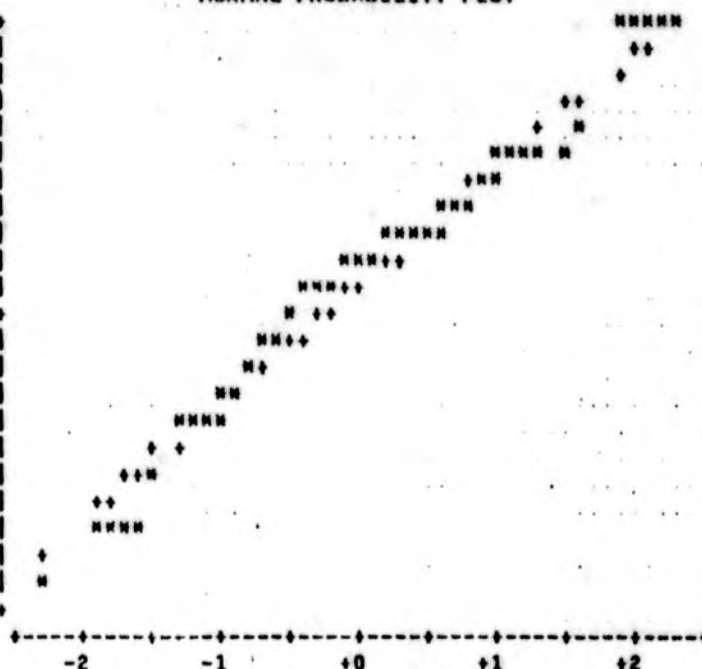
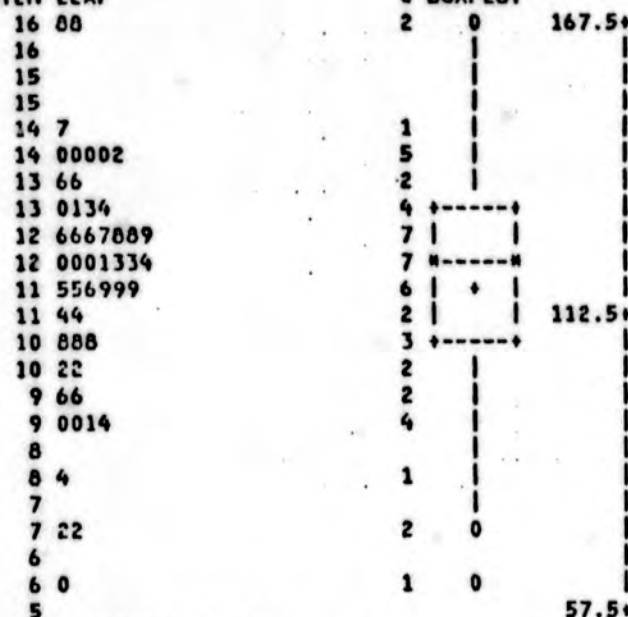
EXTREMES

MOMENTS		QUANTILES(DEF=4)		EXTREMES	
N	51	SUM WGTs	51	100% MAX	168
MEAN	118.284	SUM	6032.5	75% Q3	131
STD DEV	21.8907	VARIANCE	479.203	50% MED	120
SKEWNESS	-0.392328	KURTOSIS	0.684754	25% Q1	108
USS	737510	CSS	23960.1	0% MIN	60
CV	18.5068	STD MEAN	3.06531		
T:MEAN=0	38.589	PROB> T	0.0001	RANGE	108
SGN RANK	663	PROB> S	0.0001	Q3-Q1	23
NUM ^= 0	51			MODE	140
D:NORMAL	0.128299	PROB>D	0.035		

STEM LEAF

BOXPLOT

NORMAL PROBABILITY PLOT



MULTIPLY STEM.LEAF BY 1000001

FREQUENCY TABLE

PERCENTS				PERCENTS				PERCENTS				PERCENTS			
VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM
60	1	2.0	2.0	108.5	1	2.0	29.6	124	1	2.0	58.8	136	1	2.0	82.4
72	2	3.9	5.9	114	2	3.9	33.5	126	3	5.9	64.7	136.5	1	2.0	84.3
84	1	2.0	7.8	115	2	3.9	37.3	127	1	2.0	66.7	140	4	7.8	92.2
90	2	3.9	11.8	116	1	2.0	39.1	128	2	3.9	70.6	142	1	2.0	94.1
91	1	2.0	13.7	119	3	5.9	45.1	129	1	2.0	72.5	147	1	2.0	96.1
94.5	1	2.0	15.7	120	3	5.9	51.0	130	1	2.0	74.5	168	2	3.9	100.0
96	2	3.9	19.6	121	1	2.0	53.0	131	1	2.0	76.5				
102	2	3.9	23.5	123	1	2.0	54.9	133	1	2.0	78.4				
108	2	3.9	27.5	123.5	1	2.0	56.9	134.5	1	2.0	80.4				

Table 8
Frequency of License and Monopoly States

<u>Code</u> ¹	<u>Freq</u>	<u>Cumulative Freq</u>	<u>Percent</u>	<u>Cum Percent</u>
0	17	17	33.3	33.3
1	34	51	66.6	100.0

¹ 0 = Monopoly State, 1 = License State

VARIABLE=V6

TABLE 9

NUMERICUS

MOMENTS

QUANTILES(DEF=4)

EXTREMES

N	51	SUM WGTs	51	100% MAX	3939	99%	3939	LOWEST ID	HIGHEST ID
MEAN	1121.24	SUM	57183	75% Q3	1405	95%	3648.4	329(WI)	2615(VA)
STD DEV	878.472	VARIANCE	771713	50% MED	847	90%	2496.59	364(LA)	3048(TN)
SKEWNESS	1.94547	KURTOSIS	3.37683	25% Q1	574	10%	462	373(INV)	3532(UT)
USS	102701239	CSS	38585641	0% MIN	329	5%	369.4	456(VT)	3823(OK)
CV	78.3486	STD MEAN	123.011			1%	329	460(LA)	3939(INC)
T:MEAN=0	9.11494	PROB> T	0.0001	RANGE	3610				
SGH RANK	663	PROB> S	0.0001	Q3-Q1	831				
NUM ^= 0	51			MODE	602				
D:NORMAL	0.227391	PROB>D	<0.01						

STEM LEAF

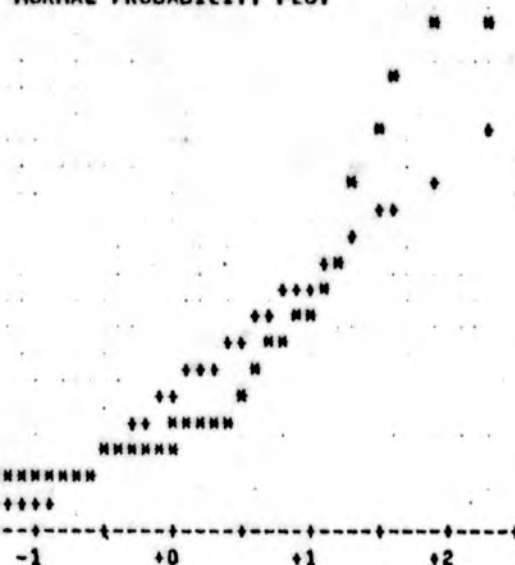
■ BOXPLOT

NORMAL PROBABILITY PLOT

30 24
36
34 3
32
30 5
28
26 1
24
22
20 2
18 6
16 687
14 090
12 86
10 59
8 567788569
6 00004555992
4 66782244479
2 367

2	n
1	0
1	0
1	
1	
1	
3	
3	+-----+
2	
2	
9	+-----+
11	
3	+-----+

3900+
2100+
300+



MULTIPLY STEM.LEAF BY 10NN+02

FREQUENCY TABLE

PERCENTS				PERCENTS				PERCENTS				PERCENTS			
VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM
329	1	2.0	2.0	589	1	2.0	27.5	874	1	2.0	56.9	1660	1	2.0	82.4
364	1	2.0	3.9	600	1	2.0	29.4	877	1	2.0	58.8	1679	1	2.0	84.3
373	1	2.0	5.9	602	2	3.9	33.3	878	1	2.0	60.8	1771	1	2.0	86.3
456	1	2.0	7.8	605	1	2.0	35.3	949	1	2.0	62.7	1864	1	2.0	88.2
460	1	2.0	9.8	636	1	2.0	37.3	962	1	2.0	64.7	2023	1	2.0	90.2
470	1	2.0	11.8	646	1	2.0	39.2	987	1	2.0	66.7	2615	1	2.0	92.2
479	1	2.0	13.7	650	2	3.9	43.1	1049	1	2.0	68.6	3048	1	2.0	94.1
520	1	2.0	15.7	688	1	2.0	45.1	1189	1	2.0	70.6	3532	1	2.0	96.1
524	1	2.0	17.6	695	1	2.0	47.1	1276	1	2.0	72.5	3823	1	2.0	98.0
540	1	2.0	19.6	722	1	2.0	49.0	1356	1	2.0	74.5	3939	1	2.0	100.0
543	1	2.0	21.6	847	1	2.0	51.0	1406	1	2.0	76.5				
545	1	2.0	23.5	856	1	2.0	52.9	1406	1	2.0	78.4				
574	1	2.0	25.5	873	1	2.0	54.9	1506	1	2.0	80.4				

SAS

UNIVARIATE

TABLE 10

VARIABLE=V10

LOGPPLIC

MOMENTS

QUANTILES(DEF=4)

EXTREMES

N	51	SUM WGTs	51
MEAN	6.80395	SUM	347.001
STD DEV	0.627095	VARIANCE	0.393248
SKEWNESS	0.759967	KURTOSIS	-0.101531
USS	2380.64	CSS	19.6624
CV	9.21663	STD MEAN	0.0878109
T:MEAN=0	77.4841	PROB> T	0.0001
SGH RANK	663	PROB> S	0.0001
NUM = 0	51		
D: NORMAL	0.131397	PROB>D	0.025

100% MAX	8.27868	99%	8.27868
75% Q3	7.24779	95%	8.20129
50% MED	6.7417	90%	7.81768
25% Q1	6.35263	10%	6.13553
0% MIN	5.79606	5%	5.91181
		1%	5.79606
RANGE	2.48262		
Q3-Q1	0.895164		
MODE	6.40026		

LOWEST	ID	HIGHEST	ID
5.79606(MI)	1	7.86902(VA)	1
5.89715(AK)	1	8.02224(TN)	1
5.92158(HV)	1	8.16962(UT)	1
6.12249(VT)	1	8.24879(OK)	1
6.13123(LA)	1	8.27868(NC)	1

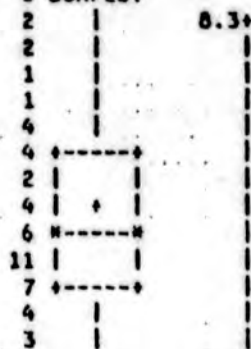
STEM LEAF

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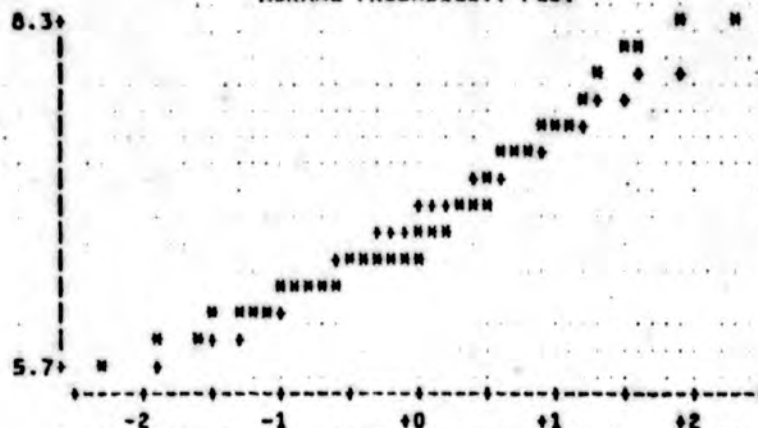
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78 7
76 1
74 1383
72 1502
70 85
68 6796
66 457788
64 00016788348
62 5690058
60 2357
58 002
56

```

BOXPLOT



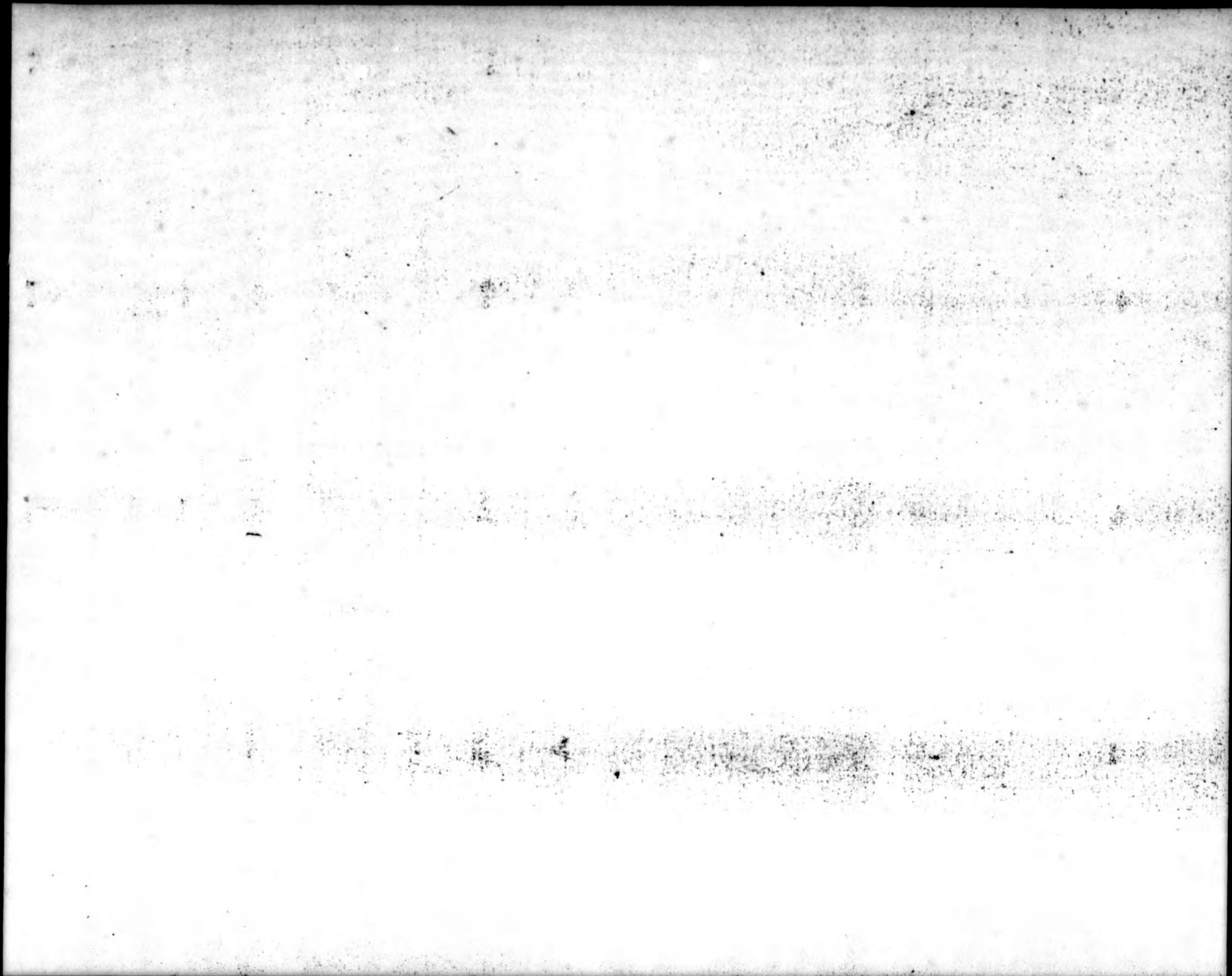
NORMAL PROBABILITY PLOT



MULTIPLY STEM.LEAF BY 10**01

FREQUENCY TABLE

PERCENTS				PERCENTS				PERCENTS				PERCENTS			
VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM
5.79606	1	2.0	2.0	6.37843	1	2.0	27.5	6.77308	1	2.0	56.9	7.41457	1	2.0	82.4
5.89715	1	2.0	3.9	6.39693	1	2.0	29.4	6.77651	1	2.0	58.8	7.42595	1	2.0	84.3
5.92158	1	2.0	5.9	6.40026	2	3.9	33.3	6.77765	1	2.0	60.8	7.4793	1	2.0	86.3
6.12249	1	2.0	7.8	6.40523	1	2.0	35.3	6.85541	1	2.0	62.7	7.53048	1	2.0	88.2
6.13123	1	2.0	9.8	6.4552	1	2.0	37.3	6.86901	1	2.0	64.7	7.61234	1	2.0	90.2
6.15273	1	2.0	11.8	6.4708	1	2.0	39.2	6.89467	1	2.0	66.7	7.86902	1	2.0	92.2
6.1717	1	2.0	13.7	6.47697	2	3.9	43.1	6.95559	1	2.0	68.6	8.02224	1	2.0	94.1
6.25303	1	2.0	15.7	6.53379	1	2.0	45.1	7.08087	1	2.0	70.6	8.16962	1	2.0	96.1
6.26149	1	2.0	17.6	6.54391	1	2.0	47.1	7.15149	1	2.0	72.5	8.24879	1	2.0	98.0
6.29157	1	2.0	19.6	6.58202	1	2.0	49.0	7.21229	1	2.0	74.5	8.27868	1	2.0	100.0
6.29711	1	2.0	21.6	6.7417	1	2.0	51.0	7.24779	1	2.0	76.5				
6.30079	1	2.0	23.5	6.75227	1	2.0	52.9	7.30384	1	2.0	78.4				
6.35263	1	2.0	25.5	6.77194	1	2.0	54.9	7.31522	1	2.0	80.4				



SAS

TABLE 11

UNIVARIATE

VARIABLE=V9

RELCOST

MOMENTS

QUANTILES(DEF=4)

EXTREMES

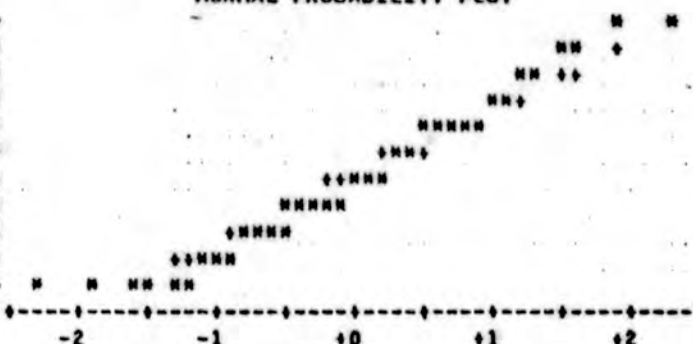
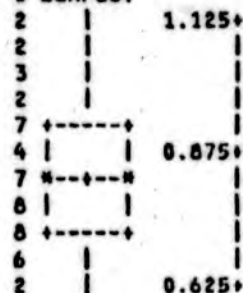
N	51	SUM HGTS	51	100% MAX	1.13867	99%	1.13867	LOWEST	ID	HIGHEST	ID
MEAN	0.028617	SUM	42.2595	75% Q3	0.930907	95%	1.09096	0.608299(DC	)	1.01679(UT	)
STD DEV	0.133548	VARIANCE	0.017835	50% MED	0.010499	90%	1.01557	0.63842(IL	)	1.05079(MS	)
SKEWNESS	0.43598	KURTOSIS	-0.567471	25% Q1	0.72637	10%	0.64867	0.645073(CA	)	1.0834(SD	)
USS	35.9037	CSS	0.891752	0% MIN	0.608299	5%	0.642411	0.646274(HV	)	1.1023(AR	)
CV	16.117	STD MEAN	0.0187004			1%	0.608299	0.648577(OK	)	1.13867(TN	)
T:MEAN=0	44.31	PROB> T	0.0001	RANGE	0.530367						
SGH RANK	663	PROB> S	0.0001	Q3-Q1	0.204537						
IRN1 ~ 0	51			MODE	0.608299						
D:NORMAL	0.0856348	PROB>D	>0.15								

STEM LEAF

BOXPLOT

NORMAL PROBABILITY PLOT

11 04
10 58
10 012
9 89
9 0113444
8 7708
8 1123344
7 66788899
7 00223333
6 555589
6 14

MULTIPLY STEM.LEAF BY 10^{HH}-01

FREQUENCY TABLE

VALUE	COUNT	PERCENTS	CELL	CUM	VALUE	COUNT	PERCENTS	CELL	CUM	VALUE	COUNT	PERCENTS	CELL	CUM	VALUE	COUNT	PERCENTS	CELL	CUM
0.608299	1	2.0	2.0		0.727663	1	2.0	27.5		0.81756	1	2.0	52.9		0.937694	1	2.0	78.4	
0.63842	1	2.0	3.9		0.727938	1	2.0	29.4		0.828748	1	2.0	54.9		0.93934	1	2.0	80.4	
0.645073	1	2.0	5.9		0.732358	1	2.0	31.4		0.831758	1	2.0	56.9		0.943004	1	2.0	82.4	
0.646274	1	2.0	7.8		0.756401	1	2.0	33.3		0.837531	1	2.0	58.8		0.984665	1	2.0	84.3	
0.648577	1	2.0	9.8		0.760293	1	2.0	35.3		0.838018	1	2.0	60.8		0.989298	1	2.0	86.3	
0.649041	1	2.0	11.8		0.767991	1	2.0	37.3		0.866203	1	2.0	62.7		0.997935	1	2.0	88.2	
0.676609	1	2.0	13.7		0.775260	1	2.0	39.2		0.869205	1	2.0	64.7		1.01066	1	2.0	90.2	
0.686794	1	2.0	15.7		0.779058	1	2.0	41.2		0.87697	1	2.0	66.7		1.01679	1	2.0	92.2	
0.695704	1	2.0	17.6		0.783755	1	2.0	43.1		0.883821	1	2.0	68.6		1.05079	1	2.0	94.1	
0.697697	1	2.0	19.6		0.786699	1	2.0	45.1		0.902539	1	2.0	70.6		1.0834	1	2.0	96.1	
0.716364	1	2.0	21.6		0.789554	1	2.0	47.1		0.907814	1	2.0	72.5		1.1023	1	2.0	98.0	
0.719753	1	2.0	23.5		0.808305	1	2.0	49.0		0.913084	1	2.0	74.5		1.13867	1	2.0	100.0	
0.72637	1	2.0	25.5		0.810499	1	2.0	51.0		0.930907	1	2.0	76.5						

Table 12

List of Values for All Variables

STATE	PC_CNSHP	AGE	COST	INCOME	HRS_WK	PPLICS	LICSTATE	RELICOST	LOGPPLIC
AL	1.95	19	7.32	7.434	108.0	1771	0	0.96467	7.47930
AK	4.04	19	9.94	12.759	147.0	364	1	0.77906	5.89715
AZ	3.28	19	7.79	8.814	126.0	688	1	0.88382	6.53379
AR	1.90	21	7.92	7.185	108.0	1864	1	1.10230	7.53048
CA	3.62	21	7.05	10.929	140.0	962	1	0.64507	6.86901
CO	3.57	21	6.98	10.033	126.0	602	1	0.69570	6.40026
CT	2.87	19	8.03	11.692	115.0	605	1	0.68679	6.40523
DE	3.33	20	7.18	10.291	96.0	650	1	0.69770	6.47697
FL	3.51	19	7.48	8.993	119.0	1276	1	0.83176	7.15149
GA	2.54	19	7.54	8.041	94.5	1679	1	0.93769	7.42595
HI	3.50	18	8.25	10.091	140.0	540	1	0.81756	6.29157
ID	2.75	19	7.71	8.176	90.0	949	0	0.94300	6.85541
IL	3.07	21	6.69	10.479	140.0	574	1	0.63842	6.35263
IN	3.23	21	7.73	8.924	134.5	856	1	0.86620	6.75227
IA	2.35	19	7.15	9.310	120.0	602	0	0.76799	6.40026
KS	2.04	21	7.76	9.864	90.0	1049	1	0.78670	6.95559
KY	2.00	21	7.58	7.662	96.0	1660	1	0.98930	7.41457
LA	2.84	18	7.35	8.456	168.0	460	1	0.86921	6.13123
ME	2.81	20	6.90	7.868	115.0	873	0	0.87697	6.77194
MD	3.27	21	6.80	10.477	120.0	874	1	0.64904	6.77308
MA	3.40	20	7.41	10.118	114.0	722	1	0.73236	6.58203
MI	2.80	21	7.14	9.967	128.0	695	0	0.71636	6.54391
MN	3.00	19	7.71	9.765	102.0	987	1	0.78955	6.89467
MS	2.20	21	6.89	6.557	84.0	2023	0	1.05079	7.61234
MO	2.44	21	6.74	8.855	108.5	589	1	0.76029	6.37843
MT	3.37	19	7.90	8.652	126.0	479	0	0.91308	6.17170
NE	2.78	20	7.53	9.086	121.0	520	1	0.82875	6.25383
NV	6.18	21	6.93	10.723	168.0	373	1	0.64627	5.92158
NH	5.35	20	6.17	9.119	128.0	877	0	0.67661	6.77651
NJ	3.00	21	7.96	10.935	91.0	646	1	0.72794	6.47080
NM	3.05	21	7.96	7.876	124.0	847	1	1.01067	6.74170
NY	3.05	18	7.46	10.252	136.0	636	1	0.72766	6.45520
NC	2.28	21	7.11	7.832	123.5	3939	1	0.90781	8.27868
ND	2.96	21	8.03	8.626	102.0	543	1	0.93091	6.29711
OH	2.44	21	7.43	9.480	119.0	878	0	0.78376	6.77765
OK	2.10	21	5.88	9.066	72.0	3823	1	0.64858	8.24879
OR	2.98	21	8.39	9.296	136.5	1503	0	0.90254	7.31522
PA	2.51	21	7.90	9.427	133.0	600	0	0.83802	6.39693
RI	3.32	20	7.31	9.429	127.0	545	1	0.77527	6.30079
SC	2.59	21	7.25	7.265	60.0	1189	1	0.99794	7.08087
SD	2.69	21	8.47	7.818	114.0	470	1	1.08340	6.15273
TH	2.01	19	8.77	7.702	129.0	3048	1	1.13867	8.02224
TX	2.95	19	7.98	9.528	116.0	1356	1	0.83753	7.21229
UT	1.80	21	7.81	7.681	72.0	3532	0	1.01679	8.16962
VT	3.50	18	6.33	7.810	123.0	456	0	0.81050	6.12249
VA	2.52	21	6.77	9.406	120.0	2615	0	0.71975	7.86902
WA	3.17	21	8.37	10.355	140.0	1486	0	0.80831	7.30384
WV	1.90	18	7.34	7.814	142.0	1405	0	0.93934	7.24779
WI	3.73	18	7.12	9.413	119.0	329	1	0.75640	5.79606
WY	3.60	19	7.90	10.876	130.0	524	0	0.72637	6.26149
DC	5.70	21	7.33	12.050	131.0	650	1	0.60830	6.47697

Table 13

Regression Analysis with All Variables Included

Intercept	3.41
INCOME	0.24 ***
COST	-0.30 **
HRS_WK	0.01 **
LOGPPLIC	-0.41 **
AGE	0.05
LICSTATE	0.10

$$F = 8.27 \quad ***$$

$$R^2 = .53$$

Table 14

Regression Analysis Without AGE and LICSTATE

Intercept	4.41 **
INCOME	0.26 ***
COST	-0.30 **
HRS_WK	0.01 **
LOGPPLIC	-0.39 **

$$F = 12.62 \quad ***$$

$$R^2 = .52$$

- * p less than .10
- ** p less than .05
- *** p less than .01

Table 15

Regression Analysis with All Variables Included

Intercept	6.62 ***
HRS_WK	0.01 **
LOGPPLIC	-0.40 **
RELCOST	-2.53 ***

$F = 15.74$ ***

$R^2 = .50$

* p less than .10
 ** p less than .05
 *** p less than .01

Table 16

Comparison of Predicted Per Capita Consumption for Each Regression
Equation with Actual, Including Ranks¹

STATE	PC_CNSMP	CONSRANK	PREDICTED VALUE	PRANK1	PREDICTED VALUE	PRANK2	PREDICTED VALUE	PRANK3
AL	1.95	48.0	2.13524	46	2.24427	44	2.24439	45
AK	4.04	4.0	3.79162	5	3.82742	4	3.80174	4
AZ	3.28	16.0	3.00712	28	3.00909	29	3.06448	29
AR	1.90	49.5	2.08150	47	1.97834	47	1.92585	47
CA	3.62	6.0	3.85476	4	3.78470	5	3.67960	6
CO	3.57	8.0	3.70135	6	3.61876	8	3.59459	10
CT	2.87	28.0	3.54536	9	3.60908	10	3.50162	13
DE	3.33	14.0	3.28220	19	3.28768	20	3.24912	23
FL	3.51	9.0	2.80967	33	2.83468	32	2.87667	32
GA	2.54	36.0	2.18098	45	2.21564	45	2.24540	44
HI	3.50	10.5	3.37223	16	3.43334	15	3.47392	15
ID	2.75	33.0	2.25037	43	2.37687	42	2.41407	42
IL	3.07	20.0	4.06897	3	3.98222	3	3.90333	2
IN	3.23	18.0	3.16474	25	3.05620	28	3.10934	27
IA	2.35	41.0	3.20731	22	3.32139	18	3.34951	18
KS	2.04	45.0	2.79836	34	2.75313	36	2.76994	38
KY	2.00	47.0	2.20996	44	2.12653	46	2.13471	46
LA	2.84	29.0	3.63331	8	3.63808	7	3.69635	5
ME	2.81	30.0	2.78731	35	2.83214	33	2.87288	33
MD	3.27	17.0	3.63961	7	3.57897	12	3.50152	14
MA	3.40	12.0	3.32972	17	3.31597	19	3.30503	20
MI	2.80	31.0	3.50440	13	3.51724	13	3.50534	12
MN	3.00	23.5	2.83963	31	2.88941	30	2.91099	30
MS	2.20	43.0	1.84375	50	1.85393	50	1.77582	50
MO	2.44	39.5	3.31145	18	3.22362	22	3.25904	22
MT	3.37	13.0	2.98855	29	3.07669	26	3.13540	25

STATE	PC_CNSMP	CONSRANK	PREDICTED VALUE	PRANK1	PREDICTED VALUE	PRANK2	PREDICTED VALUE	PRANK3
NE	2.78	32.0	3.26332	21	3.21656	23	3.26456	21
NV	6.18	1.0	4.54422	1	4.42670	1	4.34516	1
NH	5.35	3.0	3.44400	15	3.50400	14	3.51289	11
NJ	3.00	23.5	3.20230	23	3.16654	24	3.12336	26
NM	3.05	21.5	2.73588	37	2.61590	39	2.63917	39
NY	3.05	21.5	3.53462	10	3.60926	9	3.59484	9
NC	2.28	42.0	2.34095	42	2.25346	43	2.27896	43
ND	2.96	26.0	2.83020	32	2.73644	38	2.79225	37
OH	2.44	39.5	3.10611	26	3.12114	25	3.14806	24
OK	2.10	44.0	2.43907	41	2.42846	41	2.41600	41
OR	2.98	25.0	2.74886	36	2.74973	37	2.81240	34
PA	2.51	38.0	3.26576	20	3.25735	21	3.30762	19
RI	3.32	15.0	3.45760	14	3.41367	16	3.44318	16
SC	2.59	35.0	1.95150	48	1.88942	48	1.87488	48
SD	2.69	34.0	2.70090	39	2.57573	40	2.58762	40
TN	2.01	46.0	1.87149	49	1.87297	49	1.85349	49
TX	2.95	27.0	2.72794	38	2.76483	35	2.80672	35
UT	1.80	51.0	1.47067	51	1.51983	51	1.51481	51
VT	3.50	10.5	3.19177	24	3.32743	17	3.38405	17
VA	2.52	37.0	2.84756	30	2.88384	31	2.88332	31
WA	3.17	19.0	3.04858	27	3.06627	27	3.09184	28
WV	1.90	49.5	2.63851	40	2.77304	34	2.80295	36
WI	3.73	5.0	3.52048	12	3.58414	11	3.61060	8
WY	3.60	7.0	3.52126	11	3.64983	6	3.61378	7
DC	5.70	2.0	4.09699	2	4.04809	2	3.83692	3

¹ Actual PC_CNSMP and rank followed by two columns each for equations given in Tables 13, 14 and 15.

PLOT OF V0=V2

LEGEND: A = 1 OBS, B = 2 OBS, ETC.

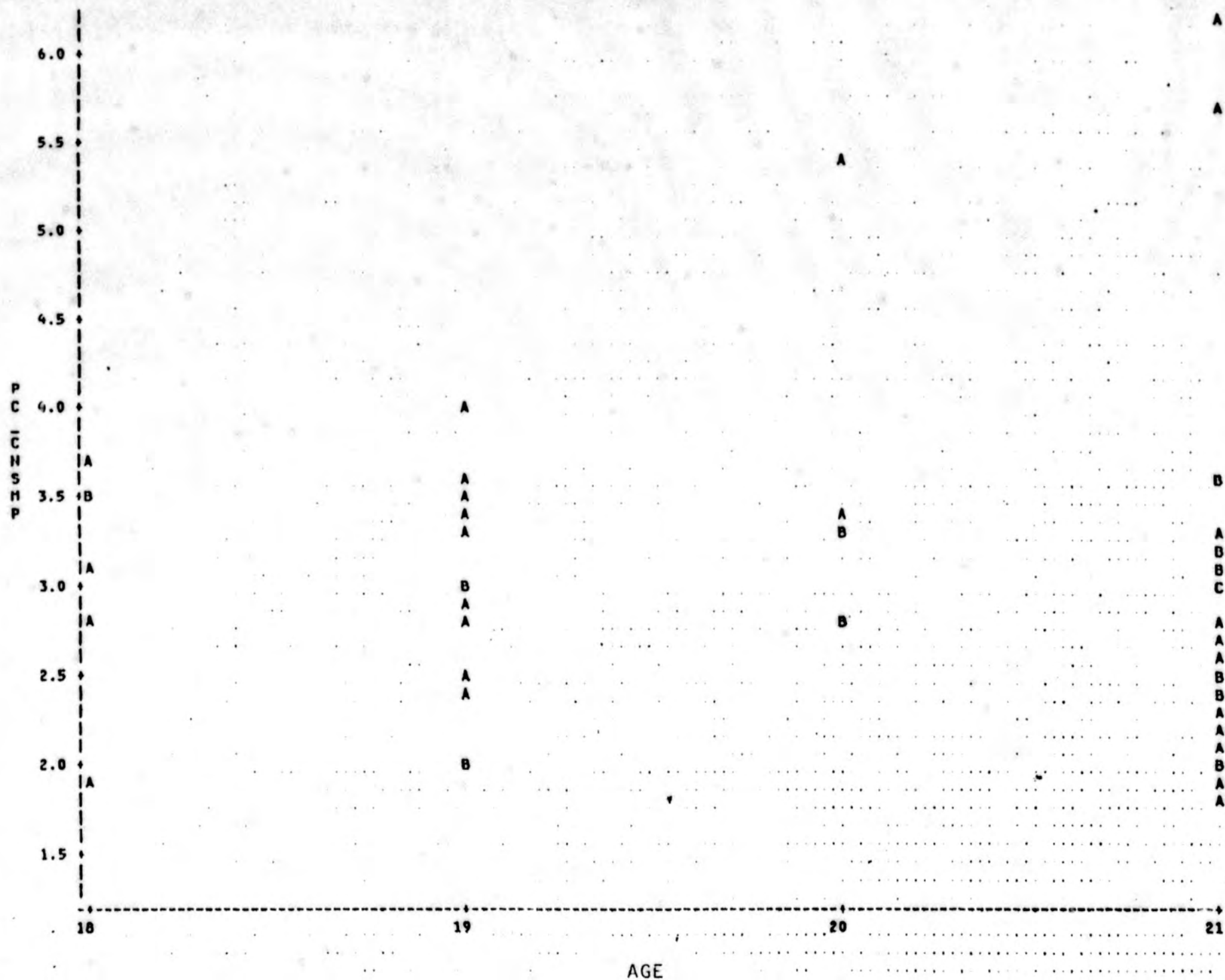
FIGURE 1

FIGURE 2

PLOT OF V0*V3 LEGEND: A = 1 OBS, D = 2 OBS, ETC.

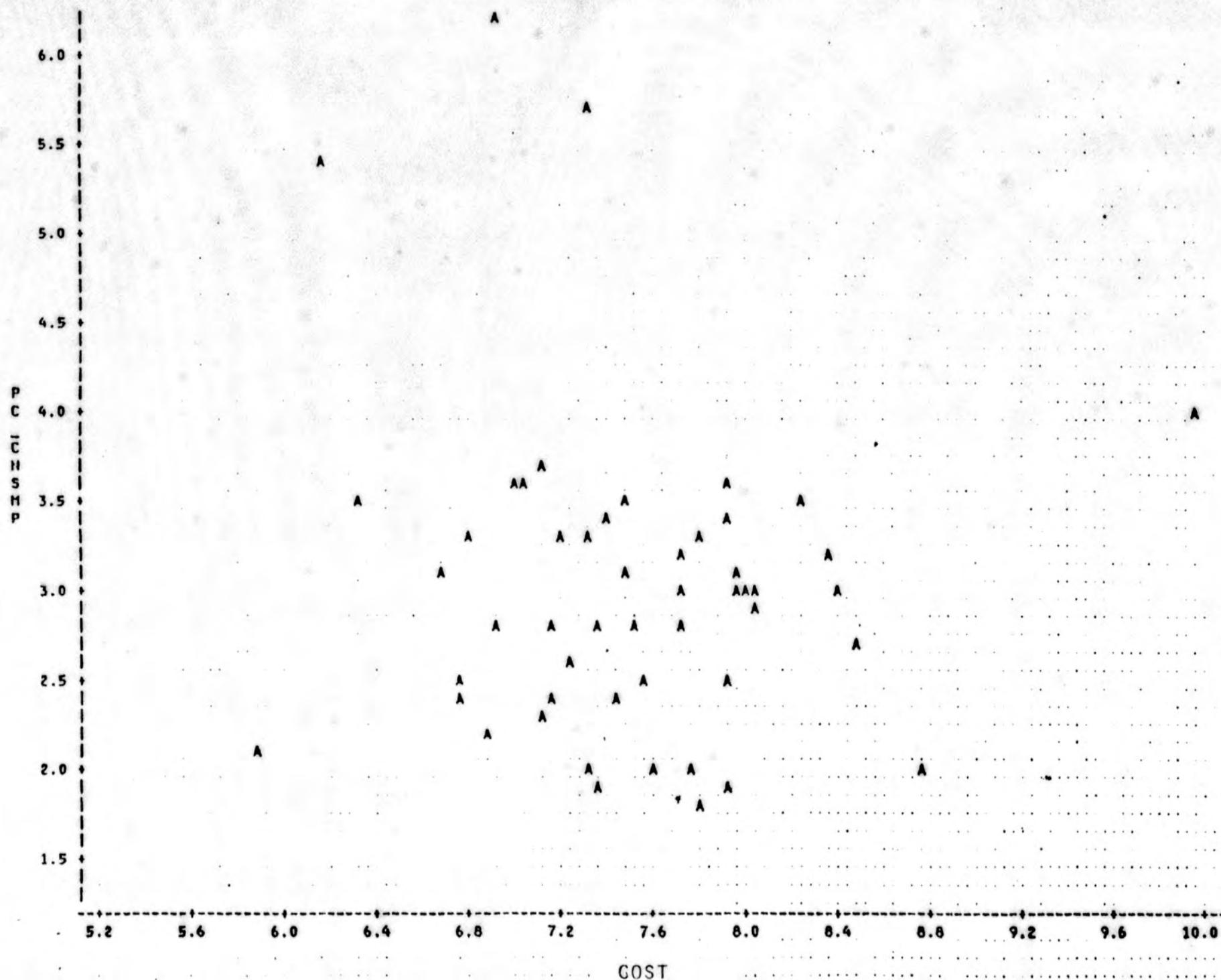
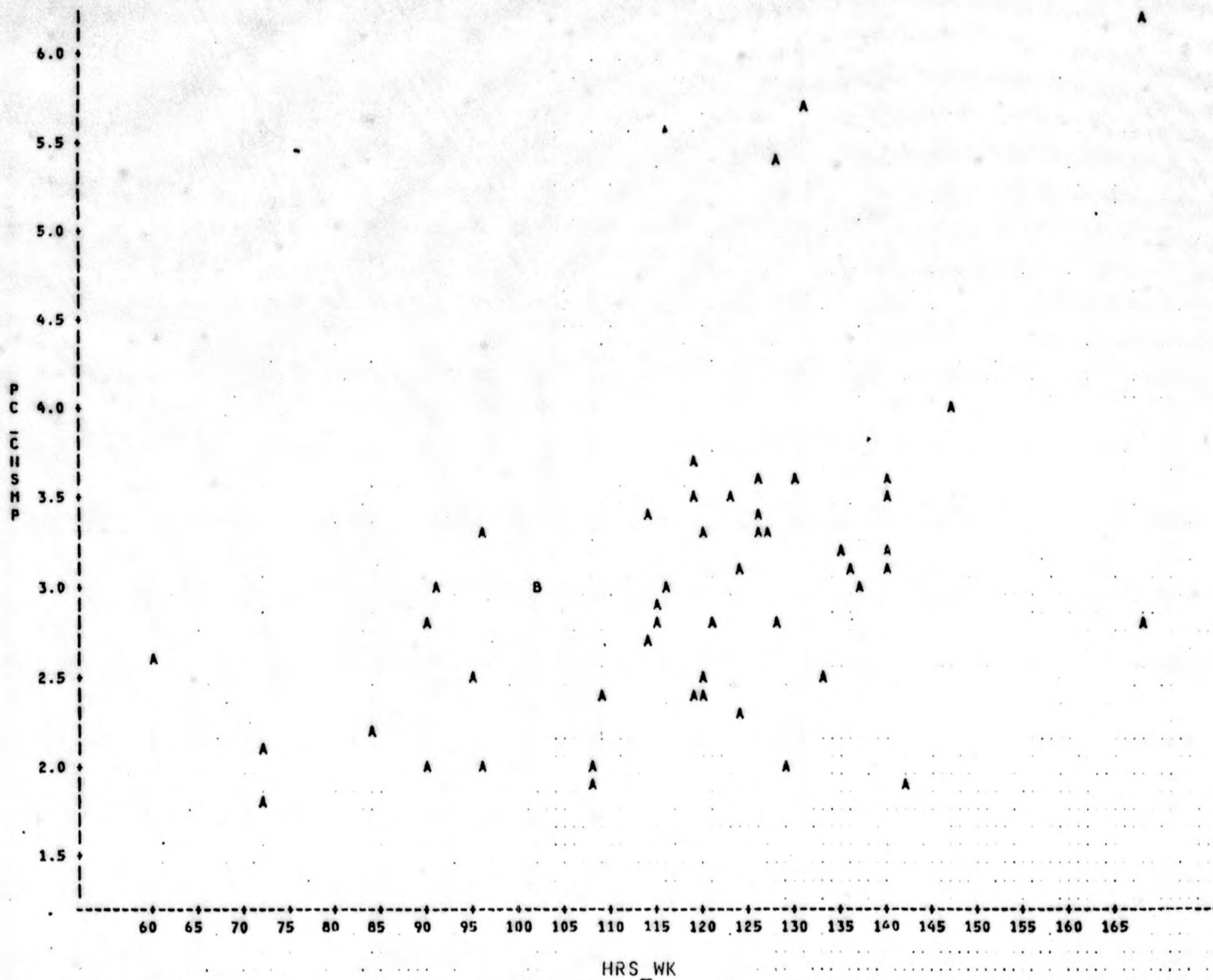


FIGURE 4

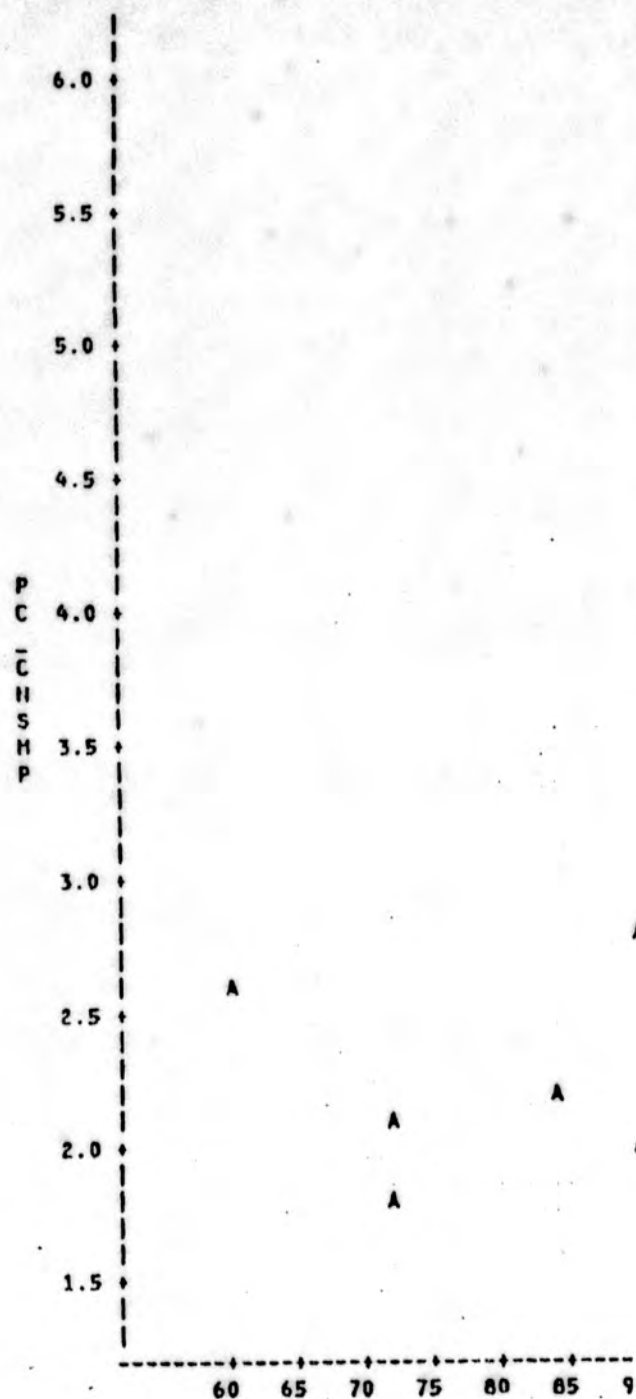
PLOT OF V8*V5

LEGEND: A = 1 ODS, B = 2 ODS, ETC.



PLOT OF V8*V5

LEGEND: A = 1 OBS, B = 2 OBS, E1



PLOT OF V8*V4

LEGEND: A = 1 OBS, B = 2 OBS, ETC.

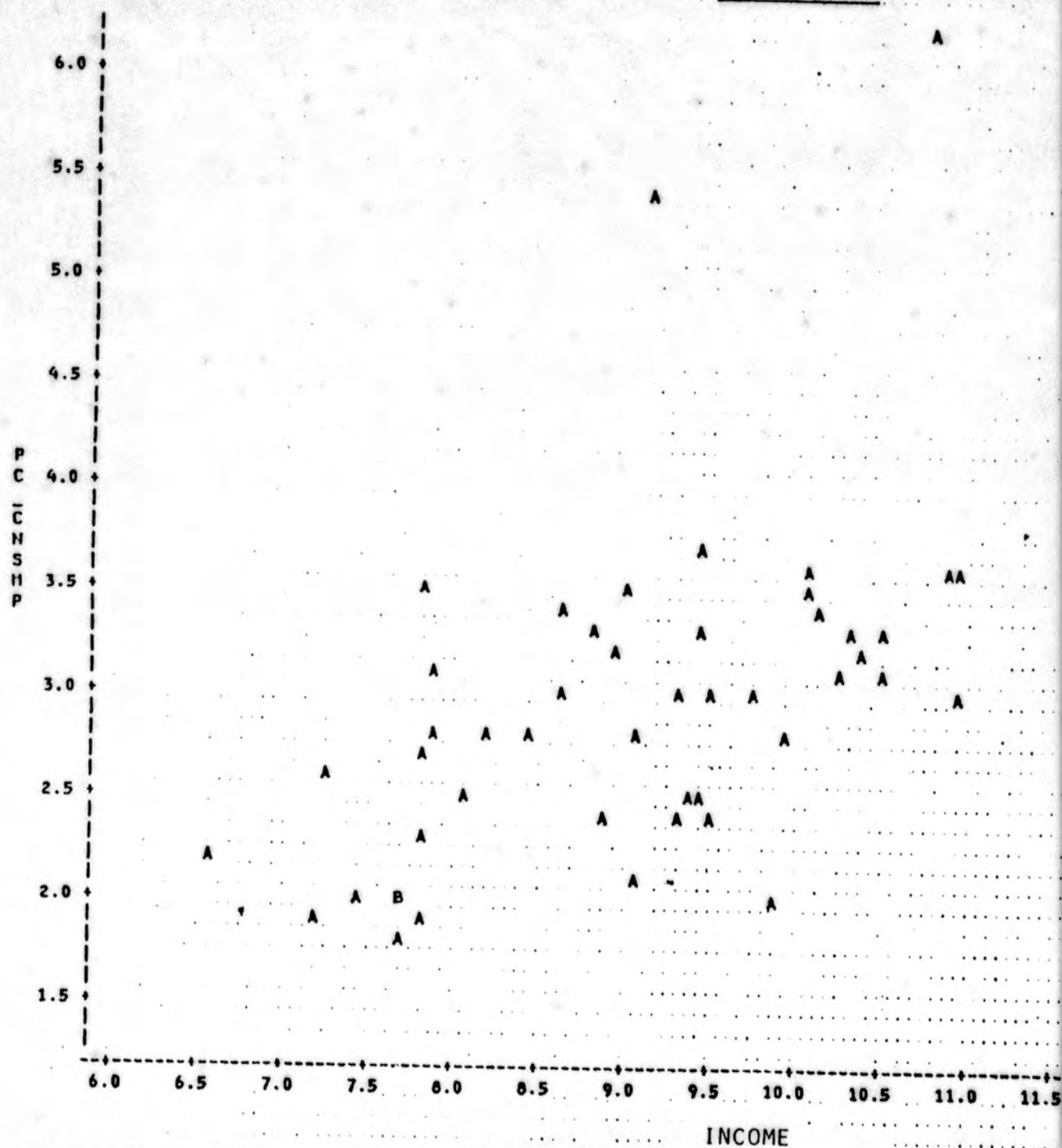
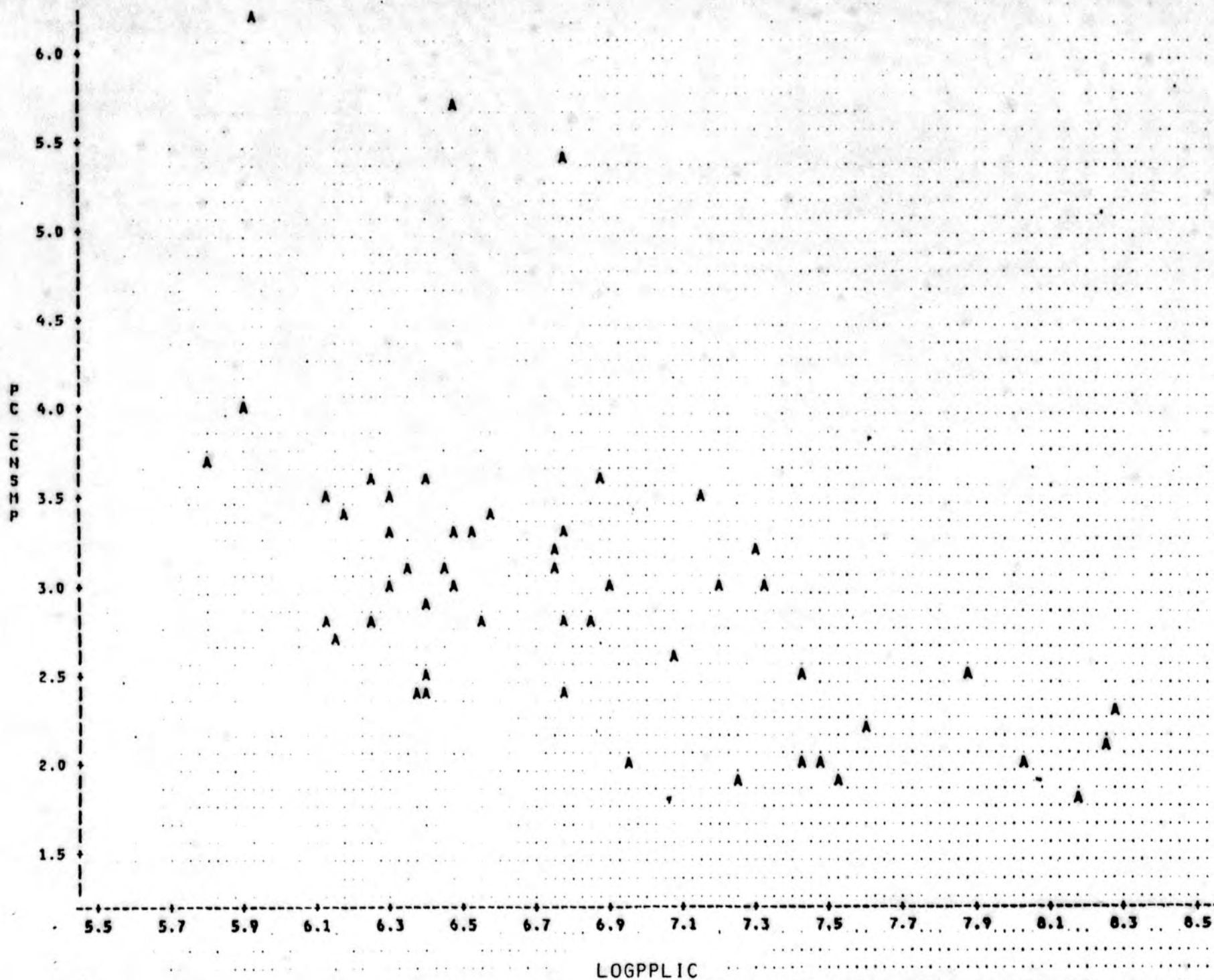


FIGURE 3

FIGURE 5

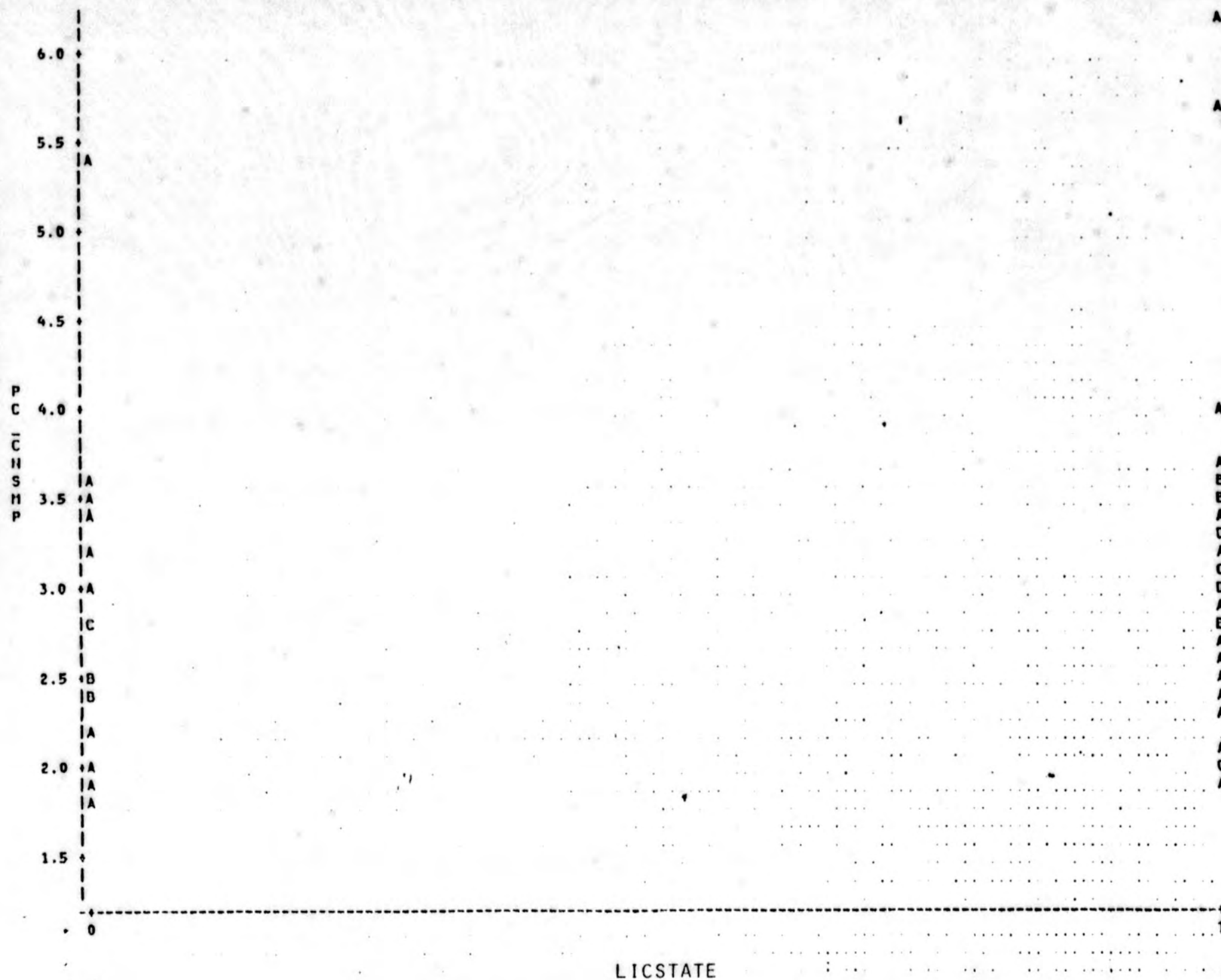
PLOT OF V8-V10

LEGEND: A = 1 OBS, B = 2 OBS, ETC.



PLOT OF V8=V7

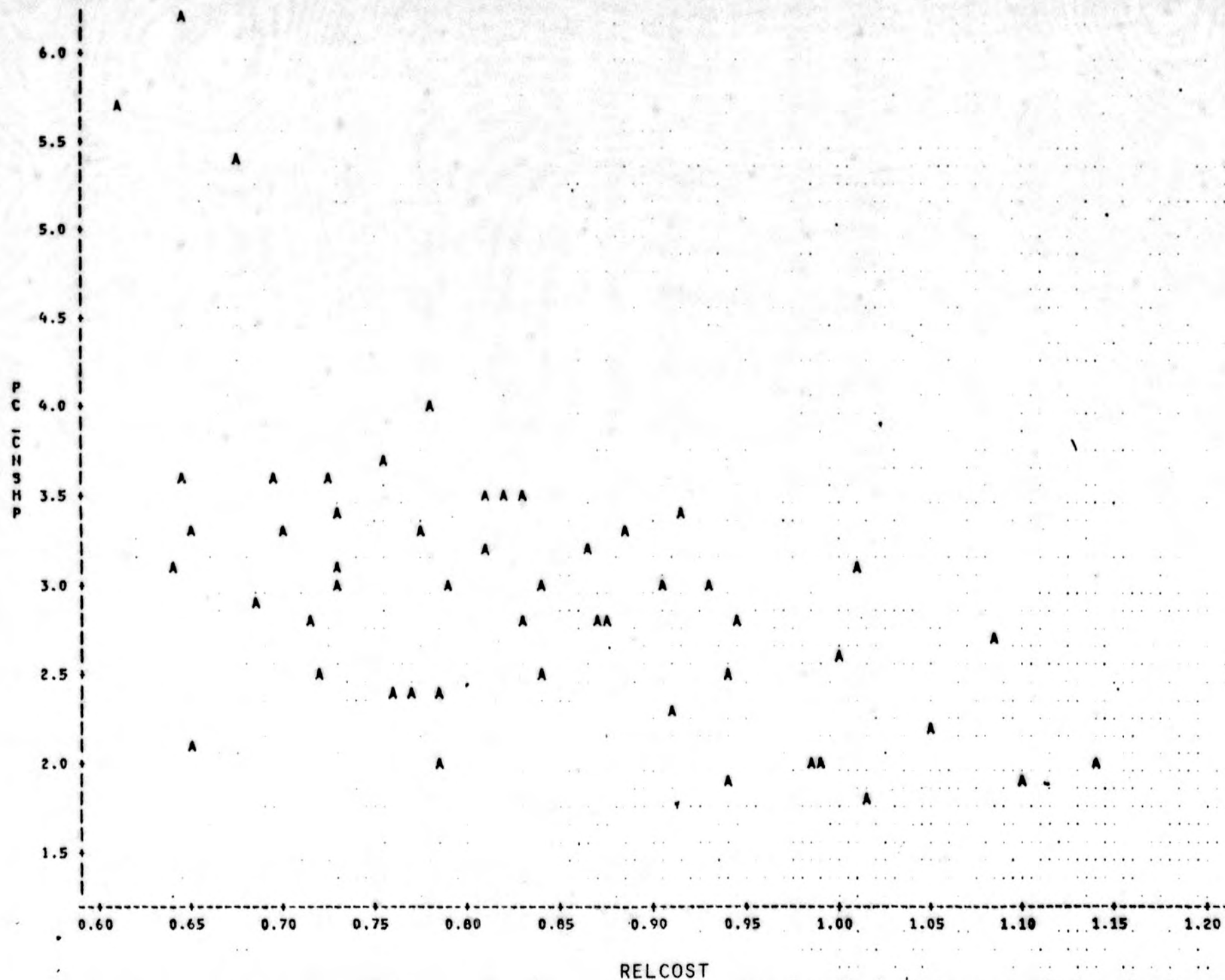
LEGEND: A = 1 ODS, B = 2 ODS, ETC.

FIGURE 6

PLOT OF V8=V9

LEGEND: A = 1 OBS, B = 2 OBS, ETC.

FIGURE 7



NORTH SLOPE BOROUGH

OFFICE OF THE MAYOR

P.O. Box 69
Barrow, Alaska 99723

Phone: 907-852-2611

George N. Ahmaogak, Sr., Mayor



December 27, 1985

Bert Hall
H&SSA
P.O. Box 69
Barrow, Alaska 99723

Dear Bert:

The report prepared by the Blue Ribbon Panel on Alcohol and Drug Abuse has been received. I wanted to take this opportunity to personally express my appreciation for your contribution to that effort.

I have very carefully reviewed the total document and discussed it in depth with both representatives from the panel as well as with several Directors whose Departments will play an important role in implementing the well prepared and comprehensive recommendations.

It is my intention to request a special work session with the Assembly some time in January so that the report can receive the attention it deserves. Subsequent to that, I expect that we will be moving ahead in several areas - in fact, we have already taken appropriate action within current authorities and budget restraints.

Again, on behalf of North Slope Borough, please accept my thanks for a job well done.

Sincerely,

George N. Ahmaogak, Sr.
George N. Ahmaogak, Sr.
Mayor

BLUE RIBBON PANEL ON ALCOHOL AND
DRUG ABUSE

December 16, 1985

Hon. George Ahmaogak, Sr.
Mayor
North Slope Borough
P.O. Box 69
Barrow, Alaska 99723

Dear Mayor Ahmaogak:

The Blue Ribbon Panel that you called together on October 9, 1985, to consider the problem of alcohol and drug abuse in our community has met many times. We now share with you our recommendations for actions that could be taken to deepen current efforts to deal with this critical issue.

As you know, the Panel brought together elders from the Barrow community, political leaders, service providers from Borough, State and Federal agencies, members of Alcoholics Anonymous, and interested citizens. A lot of hard work was accomplished in group meetings and subcommittees, and there has already been some solid results from these efforts: both the City of Barrow and the North Slope Borough have made a \$3.5 million capital grant request for a Residential Alcohol and Drug Treatment Facility their most urgent request from the Alaska Legislature for Barrow fiscal year 1986-87. Support from yourself and City Mayor Nathaniel Olemaun, Jr., were important in bringing about this grant request.

We offer these recommendations to you knowing that alcohol and drug abuse is a complicated problem. We are praying that the Lord will give guidance to our leaders and to our community to use these suggestions and their own experience to help lessen this terrible health threat to the North Slope people. These priorities are brought together from the efforts of our subcommittees. All of them are important, and they are not listed in order of importance.

A consensus from our group supports the following action plan:

1. Treatment Center for Barrow: Establishing a local residential alcohol and drug abuse treatment facility in Barrow to serve the North Slope was one of the clearest priorities expressed during all the meetings of the Commission. Right now, only out-patient counselling and protective custody for intoxicated persons are available in Barrow. Someone who needs a more intense, residential program must go to Fairbanks, Anchorage or even to Seattle to participate in one. These programs

may be able to serve the needs of North Slope people, but frequently do not. In addition, they cannot work with a person's home environment. When the person returns to the Slope, the person goes right back to the same home situation in which the drinking and/or drug abuse began. In order to make sure that a residential program starts in Barrow, we recommend the following actions:

- The Borough should lobby the Governor and the Legislature to obtain passage of the full \$3.5 million capital funding request for a Residential Alcohol and Drug Treatment Facility in Barrow. The facility should include space for emergency treatment, for a residential 30 day program and for a halfway house for persons needing a sober place to stay for limited periods.

- The Borough should advance the construction start date of NSB Capital Project 19-30 (Alcohol Treatment Center, Phase II) from the presently scheduled October, 1988, to at least early 1987. We understand that \$2 million in G.O. Bonds have already been sold for this project. We recognize the need for a carefully designed schedule for CIP projects to provide for continued employment and financial stability. However, we feel that this particular project needs to be given top priority for our community. Advancing the construction start date to early 1987 would make funds available which could be used for design and feasibility studies necessary to predict the operating and maintenance costs of the more adequate facility made possible by the expected combination of state capital funds and Borough G.O. Bond funds. We understand that actual construction may not begin until state funds are received and design is complete.

2. Interim facility. We realize that even if the above support is received, design and construction of a permanent facility with all of the necessary programs will take some time. The alcohol and drug abuse problem is so important that expanded efforts should not wait. The current Friendship House/SATS program requires our continued strong support, and it should expand into an interim facility to meet treatment needs until the "ideal" facility is possible. We propose using existing buildings and reprogramming available funds to start an interim facility by July 1, 1986. The facility would allow a prompt beginning to various programs that we hope to see in the permanent facility. The programs would be added to the interim facility as staff and funds become available.

- The Borough Housing Department should be urged to make available the existing 8 unit apartment building in Browerville after construction of the new 32 unit and/or new 8 unit make it possible for the present tenants of the old 8 unit to be moved to new housing.

- After consultation with the State Fire Marshall's office appropriate renovations should be done so that use of the building for a halfway house and/or a small residential

treatment program will meet state standards. The changes would be accomplished with already budgeted funds for renovation of the building required for use by any new tenant. If additional funds are required, we hope that donations or Assembly discretionary funds would be made available for this purpose. The money would have a permanent benefit to the Borough and the community: not only would the alcohol/drug abuse facility get started earlier, but when the permanent facility is built, the 8 unit could then be available for other NSB social service programs.

-Existing Substance Abuse Treatment Services funding could be used to move existing group and individual counselling services from the present Friendship House location to the 8 unit.

-The Borough Administration should ensure that the Substance Abuse Treatment Services program makes necessary budget requests now from both the State Office of Alcoholism and Drug Abuse and the North Slope Borough to make sure that operating and maintenance funds are available for the interim facility. Starting now with these requests should make funding of these costs for the permanent facility easier.

-Both Ukpeagvik Inupiat Corporation and the Arctic Slope Regional Corporation should be encouraged to donate funds and/or design and engineering work for the interim facility (and the permanent facility).

3. Permanent Citizen's Advisory Board. The North Slope Borough should require that the SATS program meet state grant requirements and establish a local Citizen's Advisory Board to continue community involvement in addressing the alcohol and drug abuse problem in our area. We understand that the NSB Assembly now technically fills this role. However, the Assembly obviously has a substantial amount of additional business to consider. Having a specialized citizen's advisory board will allow clearer advice to SATS, the NSB Assembly and the Borough Administration concerning alcohol and drug abuse. In addition, the community of Barrow itself will have a feeling of participation in SATS efforts if more local citizens are involved in alcohol and drug abuse prevention. Our elders, who represent the cultural and traditional strengths of our community, must be included on the Board. Any treatment and prevention program in our area needs to recognize these traditional values.

4. Law Enforcement. We recommend that the North Slope Borough fund two additional investigators for the NSB Department of Public Safety for alcohol and drug abuse cases. Large profits are flowing to drug dealers and bootleggers every week. Providing useable evidence for criminal prosecution of such cases across the North Slope, including Barrow and Prudhoe Bay is a time-consuming and difficult job. Having only one investigator assigned to these issues for the whole Borough does not meet the need for effective prosecution of such cases.

5. Recognize efforts of Commission members concerning ban on alcohol importation. An effort is now underway to give the voters of Barrow a chance to express their views about whether or not alcohol importation into Barrow should be stopped. The Borough Administration should make sure that adequate publicity is given about this issue and for the need for the citizens to vote on it.

6. Mayor's office staff coordination for alcohol and drug abuse efforts. We recommend that the Borough Mayor assign a high-level person on the Mayor's staff to coordinate efforts of the different Borough departments relating to drug and alcohol abuse. This individual, perhaps a Special Assistant to the Mayor, could inspire public attention for this issue, coordinate capital and operating fund requests to address the issue, recognize community efforts concerning the problem, and work with the Citizen's Advisory Board.

7. Health educator positions. We recommend that the North Slope Borough reestablish the health education function within the NSB Health and Social Services Agency. One of the educators must be bi-lingual, to make sure that all NSB residents are reached by the health education efforts. Community awareness of available programs through SATS and Alcoholics Anonymous and other agencies would then be increased. Workshops for service providers and community members about the issue could be organized.

8. Alcohol and drug abuse education for our children. The NSB School Board, the NSB School District Administration and the Parent Teacher Association should be encouraged to put more school district resources into alcohol/drug abuse education for our children:

-Each school should have its own "tub" of the "Here's Looking At You" alcohol and drug abuse materials. This seems to be an excellent program, but the current system of sharing the "tubs" among several schools makes it difficult for concerned teachers to thoroughly cover the material at all grade levels.

-Presently-scheduled district-wide teacher inservice programs must include presentations to make sure that even new teachers understand the deep importance of alcohol and drug abuse prevention on the North Slope. The Citizen's Advisory Board and the health educators could help with inservices by providing speakers and suggestions.

-Although all grade levels need this type of education, there should be special concentration of 4th, 5th and 6th graders. These students have not yet entered the high school area where there is more peer pressure to use alcohol and drugs.

9. Increased funding for media efforts concerning alcohol and drug abuse. We recommend that the North Slope Borough provide increased funding for media efforts for prevention of alcohol and drug abuse. The NSB Teleproduction facility could produce radio and television programs and short presentations that speak directly to North Slope people. A percentage, a minimum of 10%, of the SATS budget in the future should be specifically earmarked for alcohol and drug abuse prevention education. Existing programs such as the "Young People's Show" and "Barrow School News" on KBRW, and the new "Barrow School News" and the Leona Makok talk show on TV could be used for much of this effort.

10. Drug and alcohol abuse treatment for juveniles. Our group has not been able to address the special treatment needs of juveniles who are abusing alcohol and drugs. We know that confidentiality regulations about juveniles may make it impossible for them to participate in adult treatment programs in our community. We recommend that the North Slope Borough work with state agencies to ensure that those of our children who are abusing drugs and alcohol receive treatment programs appropriate for juveniles.

11. Public support. We recommend that the Borough Mayor, other top officials, and especially our community elders, speak out publicly and strongly against the abuse of alcohol and drugs in our community.

* * * * *

Mayor Ahmaogak, we have all learned a great deal from meeting together in response to your request. We feel that implementation of the above recommendations will go a long way toward dealing with the drug and alcohol abuse problem. Thank you for giving us the opportunity to meet together and to express our views to you. Our prayers are with you.

Signed,

THE MAYOR'S BLUE RIBBON PANEL ON ALCOHOL AND DRUG ABUSE

[See the attached signup sheet for the listing of people who attended our final meeting of December 16, 1985. For your information, we have also attached a list of the dozens of additional Barrow residents who have attended earlier sessions].

cc: Members of Blue Ribbon Panel

Josephine Angak	Box 783	Barrow
Henry E. Christensen	Box 85	Barrow
BERT HALL	Box 783	Barrow
Eda Olsen	Box 6	Barrow
James E. Christensen	Box 85	Barrow
Ralph Anderson	Box 801	Barrow
Bill Hall	Box 17283	Barrow
Michael A. Hall	Box 808	Barrow
Jack Allen	Box 951	Barrow
Eda Olsen	Box 6	Barrow
Nicky Saxton	Box 783	Barrow
Reginald E. Gates	Box 66	Barrow
TOM SAXTON	Box 703	Barrow
JOE M. BARNAMEDA	SATS	Barrow
Lee A. Okakak	Box 957	Barrow
Francis Hyle	Box 1058	Barrow
Charles A. Cyle	PHS	Barrow
Hugo Engel	Box 538	Barrow
Robert Covarrubias (Bob)	Box 450	Barrow
David Baumgartner	Box 324	"
Eda Swenson	Box 422	"

December 16, 1985

NAME	ADDRESS	
Kenneth Toovak, Jr.	Box 381	Barrow
Stephen J. Gerrison, M.D.	PHS Hospital	Barrow
Wally Nashaknik	Box 557	Barrow
Bert Hall	Box 736	Barrow
Ida Olemaun	Box 6	Barrow
James E. Christensen	Box 85	Barrow
Ralph Andersen	Box 801	Barrow
Bill Hess	Box 872383	Wasilla
Michael Jeffery	Box 808	Barrow
Jack Smith	Box 951	Barrow
Nate Olemaun	Box 6	Barrow
Nycki Saxton	Box 783	Barrow
Reginald E. Gates	Box 66	Barrow
Tom Saxton	Box 783	Barrow
Joe M. Barrameda	SATS	Barrow
Rex A. Okakok	Box 957	Barrow
M. Frances Hoyle	Box 1058	Barrow
Carols A. Pyle	PHS Hospital	Barrow
Hugo Engel	Box 538	Barrow
Robert Covarrubias	Box 450	Barrow
David Baumgartner	Box 34	Barrow
Helen Solomon	Box 422	Barrow

NAME	ADDRESS	PHONE #
GEORGE AHMAOGAK, SR.	NSB MAYORS OFFICE	852-2111
MARIE ADAMS	CITY OF BARROW	852-5211
RALP ANDERSEN	BOX 85, BARROW	N/A
JOE BARRAMEDA	SATS PROGRAM	852-4673
DAVID BAUMGARTNER	BAHA'I COMMUNITY BOX 321	852-6653
RON BOYNTON	PRESBYTERIAN CHURCH BOX 730	852-6567
STANLEY BROWER	BOX 250	
JAMES CHRISTENSEN	PUBLIC SAFETY BOX 470	852-6111
BOB COVARRUBIAS	IPALUK ELEMMENTARY SCHOOL, BOX 450	852- 11
THOMAS DRAKE	PUBLIC SAFETY/CORRECTIONS BOX 470	852-6111
HUGO ENGEL	BOX 538	852-4846
CHERYL FRALEY-FINLEY	A.W.I.C. PROGRAM BOX 69	852-3999
SHERYL FRENCH	DFYS/POUCH A	852-5600 ext. 326
KEN GARDNER	JUVENILE PROBATION BOX 729	
STEPHEN GERRISH, M.D.	PHS HOSPITAL	852-4611
REGINALD E. GATES	BARROW TRIAL COURTS BOX 2700	852 4800
NICK GONZALES	GENERAL DELIVERY BARROW	
PAUL GUNNELS	BOX 2066, BARROW	
BERT HALL	HASSA BOX 69	852-3999
MIKE HUELSMEN	732 WEST 18th ANCHORAGE	276-7723
SUSAN HEASTON	SATS PROGRAM BOX 69	852-4673
BILL HESS	BOX 872383, WASILLA, AK.	
NORM HIBBARD	UTKEAGVIK PRES. CHURCH BOX 730	852-6566
EBEN HOPSON, JR.	IKAYUQTIT	852-5633 or 3088
ROSIE HABEICH	CITY OF BARROW	852-5211
M. FRANCES HOYLE	BOX 1058, BARROW	852-5106
ED HUSSEY	CITY OF BARROW	852-5211
MICHAEL JFFERYS	BARROW TRIAL COURTS BOX 2700	852-4800
BERTHA LEAVITT	SENIOR CITIZEN/BARROW	852-3966
EDNA P. LEAVITT	BOX 302	852-2746
BOBBIE LEONE	SATS PROGRAM BOX 69	852-4673
LEEANNE MERCIER	PHN BOX 69	852-5600
CHARLES MUMFORD	VILLAGE HEALTH SERVICES BOX 69	852-8322
HENRY NASHAKNIK	BOX 557	
JAMES NEAKOK	BOX 276	
DEANNE NELSON	POSTMASTER BARROW	852-6800
REX OKAKOK	NSB MAYORS OFFICE	852-2611