

ALASKA LEGISLATURE COMMITTEE FILES 1987-1988 8672

4586 HHS SB 32 (FILE 2)

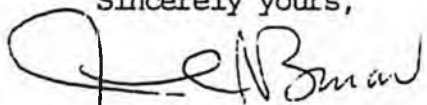
✓ 50

There is a distinction between adult use and adolescent use in practice. If an adult is smoking marijuana in the home, the adolescents are more likely to abuse it. There are many reports of cases of children (toddlers to adolescents) getting high on marijuana just from inhaling their parents' smoke.

Another distinction you have to make is between chronic abusers and acute abusers. The chronic affects of marijuana are probably considerably worse than just the occasional smoker. All studies seem to implicate the chronic use is seriously detrimental. Soe people are just occasional users. More adolescents fail to mature when using THC and may turn into a chronic abuser.

I thank you for allowing me to participate in the teleconference, and I hope I will be in contact with you concerning the toxicity of marijuana. I am enclosing several research publications and review articles on marijuana toxicity. I urge you to act promptly to protect the public from this health hazard. We criticize the FDA for withholding drugs, but their caution has protected millions from disaster. A prime example is the Thalidomide crisis that caused so many birth defects in Europe in the sixties.

Sincerely yours,



JEANNE R. BONAR, M.D.

ceb

ANSWERS TO FINDINGS ON SENATE BILL 32
J.R. Lonar, M.D.

1. True.
2. True.
3. True.
4. True. The critics of this statement state there are pre-existing personality conditions that lead troubled individuals to become frequent users of marijuana. As with alcohol, there are probably primary and secondary reasons for drug abuse. The secondary reason would be problems such as depression which leads someone into alcoholism or drug abuse. These are the minority. The primary abuse is unexplained, and no one has developed a true prototype or model of pre-existing factors that is universal to all.
5. There are case reports of cardiac death related to the use of marijuana. There are also some rare case reports of over-ingestion of hemp producing death. No one specifically can point to a tobacco cigarette and say, "This caused a death". There are toxic side effects that aggravate other factors which bring about potentially lethal conditions.; emphysema, bronchitis, lung cancer and heart disease are all related to cigarette smoking and Marijuana smoking.
6. True.
7. True.
8. True. Marijuana may cause schizophrenia, etc. Again, proponents of the use of marijuana say these conditions were pre-existing. Even if this is true, the fact that THC precipitates an acute psychotic behavior which goes into remission when the drug is removed certainly makes it a severely dangerous drug.
9. This is the statement concerning lung cancer and marijuana. Carcinogenic factors are 3 to 10 times as potent in marijuana cigarettes, depending on the mix and blend of the cigarette, as they are in regular cigarettes. To state a cigarette may cause lung cancer in three years is only presumptive. It is true it is more carcinogenic.
10. True.
11. True. Squamous metaplasia occurs in the lungs. The irreversible changes in the brain have been found in primates because such experimentation cannot be done on humans.
12. True. These condition are more severe in chronic users.
13. True. Many people smoke marijuana cigarettes in enclosed spaces such as cars and bathrooms which increases the hazards to the children present.
14. True.

Smoking and Research

Art Buchwald

Despite the overwhelming evidence that smoking can cause cancer, heart disease, and other fatal illnesses, there are still some physicians in the United States who maintain that all the facts are not in, and the medical profession is overreacting. Most of these doctors are employed by the tobacco interests, and some people are skeptical about their research.

I don't happen to be one of them. I believe that the fact that a doctor is on the tobacco industry's payroll doesn't mean he is not as objective about smoking as someone who isn't.

Take my friend Dr. Heinrich Applebaum, who gets one hundred thousand dollars a year to defend the cigarette manufacturers' interests. He took me through his lab the other day.

There were hundreds of white rats in cages, jumping about and playing and munching on tobacco leaves.

"Have you ever seen happier rats in your life?" he asked me.

"Never," I admitted. "Do they all smoke?"

"A pack a day," he said proudly. "They don't get anything to eat unless they smoke first."

"And none of them contract cancer or heart disease?"

"They better not. If one of our rats gets sick, we throw it out of the program."

"But how do you know if smoking was not the cause of its illness if you throw it away?"

"It's a question of priorities. When you're looking for scientific answers to medical problems, you don't waste your time on sick rats."

A lab assistant came up and showed Dr. Applebaum a rat that seemed to be expiring.

"What do you think, Doctor?"

"Get it out of here. It could have yellow fever."

"It doesn't appear to have yellow fever."

"Then maybe it's typhus."

"Should I do an autopsy on it?"

"Who do you think you are, Dr. Noguchi? We're running a laboratory here, not a coroner's office."

The lab assistant disappeared.

Dr. Applebaum seemed upset. "I run into that all day long. Every time a rat comes down with something, some smart aleck tries to find out if it was caused by cigarettes. Nobody ever wants to leave well enough alone."

"Maybe they're just being thorough?" I suggested. "Haven't you ever found a rat that died from a smoking-related disease?"

"Not since I've been working for the tobacco industry. When I took this job, they gave me carte blanche to find out all the facts, plus a bonus of twenty-five dollars for every rat I could prove died of natural causes. I also get one thousand dollars every time I go on television to attack the surgeon general's report on smoking. So I call them as I see them, because my scientific reputation is at stake."

"Then why is the entire medical establishment against you?"

"It's simple. If they blame smoking for somebody's heart attack they won't be sued for malpractice."

"Doctor, will you come over to cage Two hundred thirty? None of the rats seem to be moving," a lab assistant said.

We walked over. Dr. Applebaum said, "What have you been feeding them?"

"Milk and cheese," the assistant replied.

"Just as I suspected. Look for calcium kidney stones."

"Suppose I don't find any?"

"Then you can get yourself another job."

Art Buchwald
from White House Sleight

Putnam 1983

To: Alaska State Legislature
House of Representatives
Committee on Health, Education
and Social Services
Pouch V
Juneau, AK 99811

From: Tod H. Mikuriya, M.D.
1168 Sterling Avenue
Berkeley, CA 94708

Date: April 15, 1988

Re: Senate Bill 32 (Hess)

Thank you for the opportunity of testifying yesterday via teleconference regarding the medical aspects of cannabis.

I am in sympathetic understanding of the legislator who complained of the bewildering contradictory evidence on the subject. Regretfully, things have not changed since I began researching the effects of cannabis during my sophomore year in medical school in 1959. Review of the medical literature in that year revealed a significant bias against the medicinal use and for the adverse effects coinciding with the national efforts to criminalize marijuana in 1937.

That federal effort resulted in the City of New York setting up a blue ribbon panel of medical, psychiatric, psychological, and social services experts to study the real vs fantasied hazards of marijuana use. The result of this commission started in 1938 facilitated by the New York Academy of Medicine in response to concerns expressed by mayor Fiorello LaGuardia was reported six years later after a well-funded careful study. It was rejected and condemned by Harry Anslinger, head of the Federal Bureau of Narcotics.

Things have not changed much since.

My book "Marijuana Medical Papers 1839-1972" which are attached under separate cover describes medicinal applications commonly recognized in all the lists of drugs such as the U.S. Pharmacopeia prior to being purged. The official contemporary federal stance is that these listings and descriptions are "folk medicine". The resultant policy is to classify crude cannabis preparation as new drugs to avoid the dissonance of having the substances "grandfathered" in under FDA regulations.

Deprived of availability to the physician as a medicinal tool, clinical ignorance has prevailed permitting the ascendance of the moral pharmacologists and the "send them a signal" school of drug propaganda which prevails today.

The "Findings" in section 1 are the flawed products resulting from this defective information derived from this bias.

1. marijuana and other cannabis preparations may contain over 420 different compounds.

Irrelevant. So do all complex organic compounds. One could go crazy with fear analyzing one's food using a specious premise of complexity of compounds in itself constituting a threat.

2. THC is insoluble in water, soluble in fat and goes into the fatty tissues where it takes as long as 30 days to be eliminated from the body.

True, but the connection between presence of inactive breakdown products with dysfunction has yet to be shown. The slow breakdown may be a factor to prevent the drug from being addictive as compared with the water soluble opioids.

3. the buildup of THC in the system means accumulation of higher drug levels

False. Three wrongs don't make a right- just three times as wrong. There is no "buildup" which redundantly does not mean accumulation and ignores the rapid conversion from THC to inactive metabolite. The origin of finding #3 appears to be the product of contamination of a grade school level science class with a commercial for floor wax.

4. the buildup of THC: causes the user to smoke more marijuana to achieve the desired high and may result in loss of sleep, appetite, and initiative, as well as moodiness and depression.

False & bizarrely contradictory. If anything LESS marijuana is needed to achieve the desired high as described in the literature starting from the 1944 Mayor's Committee report. How could this be if we were to believe finding #3? Perhaps finding 4 was used to cover cases not explained by finding 3.

5. it is possible for a human being to overdose from the use of marijuana, especially if it is used in conjunction with alcohol, because it increases the effects of alcohol;

False, confused and mixed up with alcohol. Both drugs have distinctly different profiles of pharmacologic activity. Some interactions may be synergistic, others antagonistic and highly dependent on dose level of each.

6. the THC content of commonly obtainable marijuana has increased from less than one percent 10 years ago to as high as 10 percent today;

False. See attached prepublication copy of Cannabis 1988 Old Drug "New" Language to appear in the current Journal of Psychoactive Drugs.

7. No comment.

8. Review of the literature does not support the notion that the use of cannabis causes schizophrenia. Starting with the first large scale inquiry on the subject by the Indian Hemp Drugs Commission 1893-1896 by the British Government, and every health commission that has studied the very same issue subsequently has concluded there is no causal connection.

Cannabis in large doses in naive subjects is a familiar theme in the early medical literature that has an initial acute intoxication phase which may include symptoms of illusions and hallucinations. (Marijuana Medical Papers 1839-1972)

These stimulating symptoms of oral cannabis overdose give way to a sedative effect roughly complementary to the initial excitatory effects: the more stimulating the initial effects, the deeper the resulting sedation.

The question of the analgesic aspects of the experience are probably overstated in that the decrease in sensitivity to painful stimuli is absent unless there is "superdose" level intoxication.

Otherwise the analgesic effects are probably most useful on pain originating from irritability of the central nervous system or possibly local effects on certain blood vessels in covering of the brain.

9. False. There are no reputable studies that cannabis may cause lung cancer in 3 years.

10. Still Unknown. There is no epidemiologic data to support the in vitro studies that claim teratogenicity. A study of the

quality and longevity of the Framingham, Massachusetts study that conclusively established the connection between tobacco smoking and lung cancer and other illnesses is desperately needed to look into this issue.

11. No irreversible changes in the brain have been proven.

There is clearly a hazard from the irritation to the tracheobronchial tree from smoked marijuana with high levels of chronic use causing sinusitis, bronchitis and pharyngitis.

Increase in heart rate is dose related but should pose no hazards unless an individual was unusually susceptible because of preexisting heart disease.

There is no evidence to support the assertion that there is decreased circulation.

12. Cannabis in either overdose or use by a naive subject can induce loss of memory, anxiety, panic, paranoia, and psychosis which wears off as soon as the effects of the drug enter the sedative phase.

Cannabis in chronic use patterns is clearly an effective anxiolytic or minor tranquilizer and sedative. This is the effect sought by most users. Indeed in many individuals the chronic sedative effects will adversely effect thinking, reading comprehension or any activity, requiring sustained mental acuity.

Indeed some individuals will attempt to self-medicate away feelings of anxiety and depression and this will lead to a psychological dependence that may be harmful.

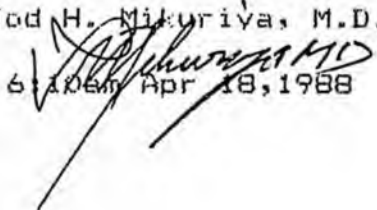
13. The assertion that the use of even small amounts of marijuana by adults in the home subjects children present to a substantial health hazards is without foundation and cannot be demonstrated.

14. No comment.

I am sympathetic to legislators confused by the contradictory information that bombards them concerning the medical aspects of cannabis. This has been an issue that has confronted me since I started studying the drug since 1937. I have found the clinical descriptions during the era when cannabis was available for general prescription from 1840 to 1940.

Review of the type and content of research discloses a heavy investment to depict cannabis as a "killer weed" without medicinal redeeming importance. I consider this an abuse of the medical profession by special interest groups within the enforcement/corrections community whose existence depend on the current social policy.

Tod H. Mikuriya, M.D.


6:10pm Apr 18, 1988

Section 1. FINDINGS. (a) The legislature finds that

(1) marijuana and other cannabis preparations contain

APR 2

(a) over 420 different compounds; including 60 cannabinoids that have mind-altering properties;

(b) tetrahydrocannabinol (THC), one of the pharmacologically active ingredients in marijuana, has increased in strength and potency from less than 1% to as high or higher than 10% in commonly obtainable marijuana today;

(c) (THC) is fat or lipid soluble and is attracted to lipid tissues of the body which include the brain, testicles, ovaries, liver, kidneys, heart and bone marrow. The half-life for marijuana is 4-8 days. Metabolites of THC take as long as 30 days to be eliminated;

(d) that marijuana use leads to the development of tolerance where more marijuana or stronger marijuana is needed to achieve the same effect or "high"

(2) current findings resulting from medical and laboratory research

(a) respiratory and cardiovascular systems;

(1) sinusities, pharyngitis, bronchitis and emphysema are associated with chronic marijuana use;

(2) evidence suggests that habitual marijuana smoking may be a factor in the development of bronchogenic carcinoma;

(3) during a marijuana "high" the heart rate increases from 70-80 beats per minute to as much as 130-150 beats a minute (tachycardia);

(b) reproductive system

(1) marijuana affects the network of glands and hormones which are involved in reproduction;

(2) the pregnant woman who uses marijuana takes an increased risk, marijuana's chemicals pass across the placenta to the developing fetus;

(c) brain

(1) THC accumulates in brain cell membranes;

(2) Neurons, the most specialized and complex cells in the body, are affected more than any other cells by substances which alter or block cell membranes;

(3) the resulting affects include the impairment of visual tracking and depth perception and a reduction in coordination, reaction time and vigilance making it dangerous to drive, fly or operate machinery;

(4) damage may include irreversible changes of the brain which interfere with reading comprehension verbal and mathematical problem solving, perception of time and distance short term memory and the ability to concentrate. Chronic use also reduces motivation;

(5) Psychological effects may include anxiety, panic, paranoia, psychosis, illusions and hallucinations. Recent studies link marijuana to schizophrenia.

(d) immune system

(1) marijuana use depresses the immune system;

(2) alters fundamental cellular defenses against disease;

(3) social impact - public health and welfare

(a) 70 resolutions have been received from student organization, school boards, municipal assemblies, police organizations, health and social service organizations, citizen drug task forces and civic organizations;

(b) The Department of Law, Criminal Justice Planning Agency's 1981 Crime In Alaska states that juvenile arrests were up- 19% from 1980, with possession of marijuana accounting for over 85% of all juvenile arrests.

(c) Surveys conducted in 1981 and 1982 by Dr. Benard Segal indicated that 47.4% of Alaskan youth between 12-17 reported having used marijuana compared to the national average of 26.7%.

(d) In a follow-up survey in 1987 conducted in the Fairbanks's North Star School District, 47.8% of the students, grade 7-12, reported having used marijuana in 1987 compared to 40.1 in 1982.

(e) In a follow-up survey in 1987 conducted in the Juneau School District 69.4% of the students grades 7-12 reported having used marijuana in 1987 compared to 68.7% in 1982.

(f) In Dr. Segal's 1987 Juneau School District Survey, marijuana continued to show the highest overall prevalence.

(g) The present findings in Juneau also indicted in downtown trend in age of initiation into drug use. Previously age 13 was the peak year for initiation into drugs but present findings indicates age 12 to be the critical year.

(4) The Legislature further finds:

(a) The Federal Drug Enforcement Agency has classified marijuana and other cannabis preparations Schedule I, due to high potential for abuse and addiction.

(b) The Undersecretary for International Narcotic Affairs, Department of State, during an address in Anchorage stated, "Several foreign countries have questioned the sincerity of the United States regarding suppression of illicit drugs by calling attention to Alaska's legislation of small amounts of marijuana. This is significant because the United States is a signatory nation to two international conventions concerning control of narcotics—the Single Convention on Narcotic Drugs of 1961 and the Psychotropic Substance Act of 1971, which include outlawing marijuana.

- (c) In the Alaska State Trooper's Drug Report to the Alaska Legislature, January 1, 1986-June 30, 1987 a marijuana eradication program was described. This program and the efforts of drug enforcement units throughout the state, led to the seizure of 3,600 marijuana plants with an estimated value of over \$866,000.

Alaska State Legislature

SENATOR PAUL FISCHER, Chairman
SENATOR JOE JOSEPHSON, Vice Chairman
SENATOR LLOYD JONES
SENATOR JAY KERTULLA
SENATOR RICK HALFORD



P. O. BOX 1
ROOM 503
STATE CAPITOL
(907) 465-3762

Senate Committee on Health, Education and Social Services

REFERENCES FOR LEGISLATIVE FINDINGS TO CS SB 32 (HESS)

Subsection (a)

1. Marijuana and Health, Institute of Medicine, National Academy Press, 1982. Page 10
2. Institute, page 20.
3. Institute, page 26
4. original (original bill finding, see House Research Report #87.158)
5. original
6. Institute, page 16. Also, conversation with officials at state crime lab.
7. Conversation with crime lab officials.
8. original
9. original
10. original
11. original
12. original
13. original
14. 21 U.S.C. 812.

Subsection (b)

1. Essentially a conclusion
2. "Patterns of Drug Use: Community Survey", Center for Alcohol and Addiction Studies, UAA; Benard Segal, Ph.D., editor; 1983. Also "Patterns of Drug Use: School Survey", same publisher and editor.

3. Same as 2.

4. Conversation with Teresa Johnson, Anchorage School District, March 1987. Includes elements of a legislative conclusion and finding.

5. Conclusion.

6. A conclusion

Consult the attached House Research Agency report dated February 27, 1987 for those items marked as being from the original bill.



ALASKA STATE LEGISLATURE
HOUSE OF REPRESENTATIVES
RESEARCH AGENCY

P.O. Box Y, State Capitol
Juneau, Alaska 99811-3100
Mail Stop 3100
(907) 465-3991

February 27, 1987

MEMORANDUM

TO: Representative Terry Martin

ATTN: John Manley

FROM: Penelope Weyhrauch
Legislative Analyst *PW*

RE: Findings on Marijuana (House Bill 55)
Research Request 87.158

You asked us to substantiate the findings on marijuana included in House Bill 55. I have addressed each of the findings included in the bill with the most applicable research available to me. Wherever possible, I have presented the research without paraphrasing it. For this reason, the memorandum may not read smoothly. As you requested, I have not included any research which disputes the findings set out in the bill.

1. Delta-9-tetrahydrocannabinol (THC), the mind-altering ingredient in marijuana, is not soluble in water, but goes into the fatty tissues of the brain, testicles, ovaries, and other internal organs, and takes 30 days to be eliminated from the body.

According to Dr. W.D.M. Paton, Professor of Pharmacology at Oxford University, "the various cannabinoid substances are highly soluble in fat, but have a low solubility in water".¹ Other research shows that "THC--the principal psychoactive ingredient of marijuana...tends to accumulate in the brain and gonads and other fatty tissues."²

¹George K. Russell, "Marihuana Today--A Compilation of Medical Findings for the Layman," p. 45.

²Senator Eastland, Chairman of the Internal Security Subcommittee of the United States Senate, May 1974, summarizing testimony given before the Subcommittee. Quoted in "Marihuana Today", p. 14.

Research completed by the National Institute on Drug Abuse shows that THC tends to remain for long periods of time in fatty tissues. Five days after a single injection of THC, 20 percent of the THC remains stored in body fats. Complete elimination of a single dose can take 30 days.³

2. The buildup of THC in the body causes the user to smoke more marijuana to achieve the desired high and may result in loss of sleep, appetite, initiative, as well as moodiness and depression.

Studies indicate that a tolerance to THC can develop, when increasing doses of a drug are required to produce the same effect.⁴ "It appears now, both in animals and in humans, that tolerance develops quite rapidly to many of the effects of THC. The more frequent the administration and the higher the dose the more rapidly it develops, but even subjects smoking as little as one marijuana cigarette per day in a laboratory experiment demonstrate tolerance on some behavioral and physiologic dimensions."⁵

To maintain constant blood levels of THC, healthy subjects were given doses of the oral equivalent of several marijuana cigarettes a day. Within hours after the last dose of THC, subjects showed "irritability, restlessness, decreased appetite, sleep disturbances, sweating, tremor, nausea, vomiting and diarrhea."⁶

3. It is possible for a human being to overdose from the use of marijuana especially if it is used in conjunction with alcohol, because it increases the effects of alcohol.

"We have found that...behaviors are linked behaviors, so that the consumption of any substance, licit or illicit, is positively correlated with an increased consumption of all other substances."⁷ "Taking the total of animal and human research, simultaneous use of both alcohol and marijuana

³"Marijuana Research Findings: 1980," Research Monograph Series 31, National Institute on Drug Abuse, U.S. Department of Health and Human Services, p. 57.

⁴"Marijuana Today," pp. 73 - 74.

⁵"Marijuana Research Findings: 1980," p. 74.

⁶"Marijuana Research Findings: 1980," p. 75. See also "Marijuana and Health," Report of a Study by a Committee of the Institute of Medicine, Division of Health Sciences Policy, 1982, p. 27.

⁷R.L. DuPont, testimony before the Senate Subcommittee on Internal Security, May 1975, ref. 90, pp. 461-471. Quoted in "Marijuana Today," p. 16.

typically has more profound effect than the use of either alone."⁸ "From the evidence it can be said that these two psychochemicals add to the effects of each other. This is common 'street' knowledge, and it is confirmed in the laboratory. The degree of intoxication is increased, and it lasts longer. This means that behavior and psychomotor functioning are more impaired."⁹

4. The THC content of a marijuana cigarette 10 years ago was one percent, but it is as high as 10 percent per cigarette today.

"The marijuana used today is many times--five to ten times--stronger than in the 60s. At the beginning of the drug movement, marijuana with THC content as low as .02 to .5 percent was commonly available and marijuana with two percent THC was considered 'real good grass.' Now confiscated marijuana analyzed in government laboratories has been found to have THC content as high as 14 percent."¹⁰

"'Street' marijuana has increased markedly in potency over the past five years. Confiscated materials in 1975 rarely exceeded one percent THC content. By 1979, samples as high as five percent THC content were common. 'Hash oil,' a marijuana extract unavailable a decade ago, has been found to have a THC content as high as 28 percent, with more typical samples analyzed by University of Mississippi chemists ranging from 15 to 20 percent THC."¹¹

5. Marijuana causes schizophrenia, illusions, and hallucinations, including a dulling of the senses, creating the possibility that the user is unable to respond to body signals, such as pain.

"The acute anxiety reaction that may occur during marijuana intoxication can include paranoid delusions,... a full blown acute toxic psychosis with loss of contact with reality, delusions, hallucinations... These acute reactions seem to occur most frequently in individuals who are under stress, depressed, or have a history of schizophrenia."¹²

⁸"Marijuana Research Findings: 1980," pp. 38, and 170.

⁹Sidney Cohen, M.D., and Phyllis J. Lessin, "Marijuana and Alcohol," American Council for Drug Education, 1982, p. 21.

¹⁰Helen C. Jones, "On Marijuana Reconsidered," Executive Health, Volume 10, Number 5, February, 1984.

¹¹"Marijuana Research Findings: 1980," p. 2.

¹²"Marijuana Research Findings: 1980," pp. 71-72. See also "Marijuana and Health," p. 126.

One researcher described a higher dose-related phase of cannabis intoxication as "...the appearance of delusions, labile emotions, particularly anxiety, decreased impulse control and, at the highest doses, profound sensory illusions and hallucinations."¹³ Dr. Harris Isbell, with the University of Kentucky Medical Center, confirmed these findings, stating that "...the data in our experiments definitely indicate that the psychotomimetic (capable of inducing altered states of consciousness) effects of THC are dependent on dosage and that sufficiently high doses can cause psychotic reactions in any individual." Dr. Isbell classified cannabis among the hallucinogens.¹⁴

One report stated that "...acute psychotic behavior resembling schizophrenic psychosis..." had been reported.¹⁵ Another said that "Sufficient clinical information is available to recommend abstinence for schizophrenics in remission, because of the danger of relapse."¹⁶

6. Although it may take a heavy cigarette smoker as long as 20 years to develop lung cancer, one marijuana cigarette a day may cause lung cancer in three years.

"Recent clinical evidence and findings from several research laboratories demonstrate that cannabis inhalation may have seriously damaging effects on human lung tissue... The damage is described as 'pre-cancerous.' The caustic and irritating effects of cannabis smoke are well known to users, and recent work has shown that 'like tar from tobacco cigarettes, reefer tar is carcinogenic when painted onto mouse skin.' Benzopyrene, a potent carcinogenic agent, is 50 percent more concentrated in the smoke of marijuana than smoke from varieties of high tar Kentucky tobacco."¹⁷

Dr. Cecile Leuchtenberger of the Swiss Institute for Experimental Cancer Research exposed small portions of excised mouse lung tissue to standardized puffs of marijuana. She summarized her work by stating: "The observations that marijuana cigarette smoke stimulates irregular growth in the respiratory system which resembles closely precancerous lesions would indicate that long-term inhalation of marijuana cigarette smoke may either directly evoke lung cancer or may at least contribute to the development of lung cancer."¹⁸

¹³"Marijuana Research Findings: 1980," p. 62.

¹⁴"Marijuana Today," p. 24.

¹⁵Robert G. Heath, M.D., "Marijuana and the Brain," The American Council on Marijuana and Other Psychoactive Drugs, 1981, p. 6.

¹⁶"Drug Abuse and Drug Abuse Research," The first in a Series of Triennial Reports to Congress, Department of Health and Human Services, 1984, p. 77.

¹⁷"Marijuana Today," pp. 54 - 55.

¹⁸"Marijuana Today," pp. 55 - 56.

"According to researchers at the American Health Foundation, marijuana smoke contains 50 percent more cancer-producing hydrocarbons than tobacco smoke."¹⁹ Further, "...abnormalities suggestive of cancerous lesions have been recorded."²⁰

7. THC affects eggs, sperm, sexual hormones, and the development of a fetus, and marijuana use may result in deformed or undersized offspring.

"Studies have shown that THC accumulates in the ovaries of the female, where it will kill and injure eggs" and that a "...significant decrease in sperm concentration and total sperm count occurs."²¹ "This effect is apparently accompanied by a decline in sperm motility and an increase in abnormal sperm forms."²²

"Studies with laboratory animals clearly show that the crude drug marijuana and THC...inhibit secretion of the pituitary hormones, luteinizing hormone and follicle stimulating hormone as well as prolactin. These changes in pituitary hormone levels produce decreases in sex steroid hormones and cause disruption of ovulation and spermatogenesis. With chronic drug use, disruption of sex accessory organs (e.g., uterus and vagina in the female; prostate gland and seminal vesicles in the male) has also been observed."²³

Other studies show that "...the risks of pregnancy loss and other adverse effects on the fetus are increased by marijuana use...significant changes consistent with retardation of fetal growth and development have been observed."²⁴

"Low maternal weight gain during pregnancy, maternal illnesses during pregnancy, and cigarette and marijuana smoking during pregnancy were consistently related to adverse fetal development. Women who used marijuana during pregnancy delivered infants with significantly smaller

¹⁹"On Marijuana Reconsidered," p. 2.

²⁰"Marijuana and Health," p. 63. See also "Effects of Long Term Marijuana Use", p. 156, and, "Marijuana and Health," pp. 3, and 62.

²¹"Marijuana," Narcotic Information Bulletin, No.1-80, p. 2.

²²Carol Grace Smith, Ph.D. and Ricardo H. Asch, M.D., "Marijuana and Reproduction," the American Council for Drug Education, 1982, pp. 16, 17.

²³"Marijuana and Reproduction," p. 7.

²⁴"Marijuana and Reproduction", p. 8.

birth weight, body length and head circumference, as well as infants who were five times more likely to have features compatible with the fetal alcohol syndrome."²⁵

"In males, marijuana has been found temporarily to lower testosterone, the principal male sex hormone, decrease sperm count, cause abnormalities in the sperm...In women, a study of marijuana users done at the Masters and Johnson Institute found that the drug disrupted the menstrual cycle...At the University of California, Davis, Dr. Ethel Sassenrath, on exposing pregnant rhesus monkeys (who have a reproductive system similar to humans), to THC in doses equal to one or two marijuana cigarettes a day for humans, found significantly lower weight gains during pregnancy and 40 percent of the conceptions ending in miscarriages, fetal deaths, stillbirths, or infant deaths shortly after birth."

8. Other physical reactions to marijuana include irreversible changes in the brain, sinusitis, pharyngitis, bronchitis, emphysema, increased heart rate, and decreased blood circulation.

One study stated that "The findings reported here indicate that exposure to ...THC...at doses commensurate with those used by human marijuana smokers, produces permanent changes in brain function and structure of monkeys, a subhuman primate close to man."²⁶

Testimony on this subject before the Senate Subcommittee on Internal Security was summarized by finding that: "1) Chronic cannabis smoking can produce sinusitis, pharyngitis, bronchitis, emphysema and other respiratory difficulties in a year or less, as opposed to ten or twenty years of cigarette smoking to produce similar complications; and 2) Cannabis smoke, or cannabis smoke mixed with (tobacco) cigarette smoke, is far more damaging to lung tissue than tobacco smoke alone."²⁷

"There is good evidence to show that marijuana increases the work of the heart, usually by raising heart rate and in some persons, by raising blood pressure."²⁸

²⁵"Marijuana and Reproduction," p. 16, 17.

²⁶Robert G. Heath, M.D., "Marijuana and the Brain," The American Council on Marijuana and Other Psychoactive Drugs, Inc., 1981, p. 10.

²⁷"Marijuana Today," p. 14. See also "Marijuana and Health," p. 60.

²⁸"Marijuana and Health," p. 3.

9. Other psychological reactions to marijuana include loss of memory, impairment in thinking, reading comprehension, and verbal and arithmetic problem solving; impairment of perception of distance and time; and anxiety, panic, paranoia, psychosis, and psychological dependence.

Dr. Ronald C. Bloodworth, Clinical Director at the Psychiatric Institute of Atlanta, reported that "...Many heavy users suffer from distorted emotional responses, disordered thinking, and loss of memory and motivation." Dr. Bloodworth also reported that there is enough evidence to confirm that psychologic dependence is common among marijuana users and that physical dependence can also occur.²⁹

Other studies concur with Dr. Bloodworth's findings: "...cannabis intoxication...impairs judgments of distance and time, memory for recent events, ability to learn new information, and physical coordination,"³⁰ and, "...several studies have shown that marijuana intoxication impairs driving, flying and other complex skilled activities. Many elements of effective psychomotor performance are worsened by the drug because of decrements in recent memory, tracking performance, glare recovery, motor coordination, depth perception, time sense, and peripheral vision."³¹

"Under the influence of moderate doses of the drug, most investigators report that subjects consistently overestimate the amount of time that has elapsed. Thus, under the influence of marijuana, a given event is reported to last longer than it actually does last."³²

"Marijuana's popularity notwithstanding, a surprisingly high proportion of users report reactions that they regard as unpleasant or undesirable. For example, 33 percent of regular users reported that while intoxicated they occasionally experienced such symptoms as acute panic, paranoid reaction, hallucinations, and unpleasant distortions in body image."³³

Another study reported that "16 percent of regular users reported anxiety, fearfulness, confusion, dependency, or aggressive urges as a usual occurrence. Acute paranoid reactions under controlled conditions has also been reported."³⁴

²⁹"On Marijuana Reconsidered," p. 4.

³⁰"Marijuana Research Findings: 1980," page 67..

³¹"Marijuana Research Findings: 1980," p.71.

³²"Marijuana and Health," p. 116.

³³"Marijuana and Health," p. 121.

³⁴"Marijuana and Health," pp. 122 to 123.

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"Cannabis psychosis refers to a chronic psychotic condition (out of contact with reality) reportedly seen in heavy marijuana users, but extending beyond the period of acute intoxication. Some authors have described a schizophrenia-like picture with delusions and hallucinations."³⁶

"Although infrequent..psychiatric problems can emerge. Acute anxiety and panic states from use of the drug are known, especially in persons who have never used marijuana before. Acute paranoid states will occur at times in experienced smokers who have previously used the drug without untoward reaction."³⁷

* * *

I hope this information is useful to you. If you would like excerpts from the articles cited in this memorandum, please contact our agency.

³⁶"Marijuana and Health," p. 124.

³⁷"Effects of Long Term Marijuana Use," p. 158..



ALASKA STATE LEGISLATURE
HOUSE OF REPRESENTATIVES
RESEARCH AGENCY

P.O. Box Y, State Capitol
Juneau, Alaska 99811-3100
Mail Stop 3100
(907) 465-3991

April 4, 1988

MEMORANDUM

TO: Representatives Johnny Ellis and Niilo Koponen
Co-Chairs, House Health, Education and Social Services Committee

FROM: Karla Hart ~~KH~~
Legislative Analyst

RE: Findings on Marijuana (Senate Bill 32) and Comparison With Alcohol
and Tobacco
Research Request 88.212

As part of the House Health Education and Social Services Committee's preparation for hearings on the recriminalization of marijuana, you asked us to discuss the findings on marijuana included in CSSB 32 (HESS) and, where appropriate, to present similar information on alcohol and tobacco.¹ I have addressed each of the findings included in the bill with the most applicable research available to me.² Under each finding below, research which supports the finding is presented first, followed by

¹"The roles of tetrahydrocannabinol (THC) in marijuana, ethanol in alcoholic beverages, and nicotine in tobacco products are similar in terms of drug abuse or addiction," according to the National Institute of Drug Abuse (NIDA) in: Drug Abuse and Drug Abuse Research, The first in a Series of Triennial Reports to Congress, U.S. Department of Health and Human Services, DHSS (ADM) 85-1372, 1984, p. 97.

²This memorandum incorporates portions of House Research Memorandum 87.167 and presents material in a similar format. In addition to material gathered independently, I have incorporated material provided by Alaskans for a Drug Free Youth and the National Organization for the Reform of Marijuana Laws. Prior to March 16, I asked for access to Senator Fischer's materials on marijuana. Because permission was not granted until the afternoon of March 30, I was unable to examine his files due to the memorandum deadline.

research which disputes the finding or presents additional information which you may wish to consider. Wherever possible, I have presented the research without paraphrasing it.

Section 1. FINDINGS. (a) The legislature finds that marijuana use is a serious health problem for the following reasons, each of which constitutes a legitimate and compelling state interest:

- 1) Marijuana and other cannabis preparations may contain over 420 different compounds.

Support. C.E. Turner found that marijuana "...is quite complex, containing at least 421 individual compounds. Sixty-one of the chemicals which have been identified in the plant--the cannabinoids--are specific to cannabis...."³ "And when marijuana is smoked, the 421 chemicals turn into still more chemicals. Over 2,000 of them."⁴

Other Considerations. According to Jon Gettman, National Director of NORML, "there is no correlation, let alone a causal relationship, between the number of compounds a substance contains and its capacity to pose a serious health hazard. However, it must be pointed out that refined pharmaceuticals tend to be more toxic and hazardous to the body than natural substances--which tend to be more easily metabolized. Coca leaves and opium, for example, are less toxic than their refined by-products, cocaine and heroin. It could be argued that the lower the number of compounds present in a substance the more dangerous it is, but this would be equally as fallacious."⁵

Hundreds of compounds exist in just about everything humans eat. As Marlys Schneider, Chemistry Department, University of Alaska Fairbanks, explained, this complexity is often advantageous because the concentration of any single, and potentially harmful, compound is diluted. She added that the harmfulness of a substance is determined by how much of it is present, not what it is.⁶

³C. E. Turner, "Chemistry and metabolism of marijuana," in: Marijuana Research Findings: 1980, ed. R. C. Peterson, Washington, D.C., U.S. Government Printing Office, 1980.

⁴Peggy Mann, Pot Safari: A Visit to the Top Marijuana Researchers in the U.S., New York, Woodmere Press, 1985, p. 12.

⁵Jon B. Gettman, Director, National Organization for the Reform of Marijuana Laws, personal communication, March 17, 1988.

⁶Marlys Schneider, Chemistry Department, University of Alaska Fairbanks, personal communication, March 18, 1988.

Alcohol. Ethanol is a single chemical.⁷

Tobacco. "Tobacco smoke contains over 1,500 chemical compounds, including heavy metals from the soil in which the tobacco is grown, chemicals added in the processing of tobacco, from bacterial or fungal contamination and products of combustion of the plant material. The principal components of tobacco smoke may be characterized under the headings of volatile compounds (or gases), water-soluble agents and fat-soluble and insoluble particles ("tars")."⁸

- 2) Tetrahydrocannabinol (THC), one of the pharmacologically active compounds in marijuana, is not soluble in water, but goes into the fatty tissues of the brain, testicles, ovaries, and other internal organs and takes as long as 30 days to be eliminated from the body.

Support. According to Dr. W.D.M. Paton, Professor of Pharmacology at Oxford University, "the various cannabinoid substances are highly soluble in fat, but have a low solubility in water."⁹ Other research shows that "THC--the principal psychoactive ingredient of marijuana...tends to accumulate in the brain and gonads and other fatty tissues."¹⁰

Research completed by the National Institute on Drug Abuse (NIDA) shows that THC tends to remain for long periods of time in fatty tissues. Five days after a single injection of THC, 20 percent of the THC remains stored in body fats. Complete elimination of a single dose can take 30 days.¹¹

I did not find any research which disputes this finding.

⁷Mann, Pot Safari, p. 12.

⁸Donald P. Tashkin, and Sidney Cohen, Marijuana Smoking and Its Effects on the Lungs, New York, The American Council on Marijuana and Other Psychoactive Drugs, 1981, p. 8.

⁹George K. Russell, Marijuana Today: A Compilation of Medical Findings for the Layman, rev. ed., New York, The Myrin Institute for Adult Education, 1983, p. 45.

¹⁰Senator Eastland, Chairman of the Internal Security Subcommittee of the United States Senate, May 1974, summarizing testimony given before the Subcommittee. Quoted in Marijuana Today, p. 14.

¹¹Robert C. Petersen, ed., Marijuana Research Findings: 1980, National Institute on Drug Abuse Research Monograph 31, Washington, D.C., U.S. Government Printing Office, DHSS (ADM)80-1001, 1980, p. 57.

Other Considerations. One of the NIDA's four "high priority research questions" in a 1987 publication was that the "significance of the cumulation of cannabinoids in lipid tissues over years requires clarification; for example, does the retention of THC and its congeners in lipid membranes of the gonads and neurons produce undesired changes?"¹²

Alcohol. Alcohol is water soluble and is taken into the blood stream, metabolized and washed out of the body in a few hours.¹³

Tobacco. Nicotine is also water soluble.

- 3) The buildup of THC in the system means that repeated administration of even small doses may lead to an accumulation of the drug higher than levels reached at any time after a single dose.

Note. "Drugs that are slowly cleared are not necessarily inherently more toxic than drugs that are rapidly cleared. However, slow clearance may make for cumulative toxicity (assuming that some of the metabolites have biological activity). Many useful therapeutic drugs are cleared slowly from the body; for example, many benzodiazepines. Therapeutic drugs having this characteristic sometimes cause problems when their dosage schedules are not properly regulated. Thus, slow elimination and the possibility of drug accumulation become even more significant with a drug such as marijuana which is administered in doses and on a dosage schedule controlled by the individual user and by custom rather than as recommended and monitored by a physician."¹⁴

¹²Drug Abuse and Drug Abuse Research, The second triennial report to Congress from the Secretary, U.S. Department of Health and Human Services, Rockville, Md, National Institute on Drug Abuse, DHSS (ADM)87-1486. 1987, p. 88.

¹³Mann, Pot Safari, p. 49.

¹⁴Marijuana Research Findings: 1980, pp. 58-59.

Support. This finding is largely a quote from a National Academy of Sciences Report.¹⁵ In other words, "If a person is using marijuana more often than once a month, ... then residue levels of THC are not only retained, but also build up in the user's body."¹⁶ "There's one other substance which has as much staying power [as THC] in the body cells. DDT. But because it clings on in the body cells [about as long as THC], it was banned."¹⁷

Other Considerations. The psychoactive components in marijuana are metabolized fairly quickly according to Dr. Arthur McBay, North Carolina's chief medical examiner.¹⁸ Jon Gettman, NORML, explains that the "high" associated with marijuana lasts for approximately four hours and repeated doses, therefore, do not have a cumulative psychoactive effect if administered less frequently than every four hours.¹⁹

Alcohol and Tobacco. Because both ethanol and nicotine are largely water soluble they do not "buildup" in the system.

- 4) The buildup of THC in the body causes the user to smoke more marijuana to achieve the desired high and may result in loss of sleep, appetite, and initiative, as well as moodiness and depression.

Note. "Tolerance...is present if one witnesses a diminished response to a particular dose of a drug after one or more prior administrations of this drug. Tolerance can also be said to be present if a larger dose of [a drug] is necessary to produce a particular intensity of physiologic or

¹⁵Institute of Medicine, Marijuana and Health, Washington, D.C., National Academy Press, 1982, p. 20.

¹⁶Robert L. DuPont, Jr., Getting Tough on Gateway Drugs: A Guide for the Family, Washington, D.C., American Psychiatric Press, Inc., 1984, p. 68.

¹⁷Mann, Pot Safari, p. 22.

¹⁸Arthur McBay, as quoted by Jon Lettman, NORML, personal communication, March 25, 1988.

¹⁹Lettman, personal communication, March 25, 1988.

behavioral response in an individual who has previously consumed [the drug] as compared to the dose that was necessary to produce such response in this individual prior to the consumption of the [drug]."²⁰

Support. Studies indicate that a tolerance to THC can develop, and increasing doses of a drug are required to produce the same effect.²¹ "It appears now, both in animals and in humans, that tolerance develops quite rapidly to many of the effects of THC. The more frequent the administration and the higher the dose the more rapidly it develops, but even subjects smoking as little as one marijuana cigarette per day in a laboratory experiment demonstrate tolerance on some behavioral and physiologic dimensions."²² Other research stated that "...lethargy and loss of goal directedness persists during the interval between intoxications with marijuana and is generally reversible after months of abstinence."²³

Other Considerations. I did not find any research which directly disputes this finding. In fact, there is an "amotivational syndrome" which describes personality changes seen in some daily users of marijuana. "The changes include apathy, loss of ambition, loss of effectiveness, diminished ability to carry out long-term plans, difficulty in concentrating, and a decline in school or work performance. Interpretation of the evidence linking marijuana to amotivational syndrome is difficult. Such symptoms have been known to occur in the absence of marijuana. Even if there is an association between this syndrome and use of marijuana, that does not prove that marijuana causes the syndrome. Many troubled individuals seek an 'escape' into use of drugs; thus, frequent use of marijuana may become one more in a series of counterproductive behaviors for these unhappy people."²⁴

²⁰Boris Tabakoff and Jeffrey D. Rothstein, "Biology of Tolerance and Dependence," in Medical and Social Aspects of Alcohol Abuse, edited by Boris Tabakoff, Patricia B. Sutker and Carrie L. Randall, New York, Plenum Press, 1983, pp. 187-188.

²¹Russell, Marijuana Today, pp. 73-74.

²²Marijuana Research Findings: 1980, p. 74.

²³Drug Abuse and Drug Abuse Research, The first in a series of triennial reports to Congress from the Secretary, U.S. Department of Health and Human Services, Rockville, Md, National Institute on Drug Abuse, DHSS (ADM)85-1372, 1984, p. 88.

²⁴Marijuana and Health, pp. 124-125.

Alcohol. A wide range of ethanol tolerances has been proven to develop in humans.²⁵ "Alcohol intoxication has a profound effect on sleep....Sleep disturbances in alcoholics may persist...for up to one or two years after termination of chronic drinking."²⁶ "The consumption of ethanol can produce nutrient imbalance because alcoholic beverages are almost entirely devoid of essential nutrients other than calories and hence are also 'empty' in nutrient value."²⁷

Tobacco. Tolerance to nicotine develops with repeated use. Symptoms of tobacco withdrawal include irritability, anxiety, difficulty concentrating, headaches, gastrointestinal disturbances, insomnia, fatigue, aggressiveness, and impaired performance on such psychomotor and learning tests as simulated driving, vigilance, and pair-associate learning.²⁸

- 5) It is possible for a human being to overdose from the use of marijuana, especially if it is used in conjunction with alcohol, because it increases the effects of alcohol.

Comment. The term overdose is vague--Webster's Dictionary defines overdose as "too great a dose."

Support. Some studies have found that "...behaviors are linked behaviors, so that the consumption of any substance, licit or illicit, is positively correlated with an increased consumption of all other substances."²⁹ "Taking the total of animal and human research, simultaneous use of both alcohol and marijuana typically has more profound effects than the use of either alone. However, the magnitude and duration of the effect may vary depending on the dosages of the two drugs involved, the type of effect measured, and the time intervals involved in administering the drugs. As

²⁵Tabakoff and Rothstein, "Biology of Tolerance And Dependence," in Medical and Social Aspects of Alcohol Abuse, pp. 187-216.

²⁶Ibid., pp. 203-204.

²⁷Ting-Kai Li, "The Absorption, Distribution, and Metabolism of Ethanol and Its Effects on Nutrition and Hepatic Function," in Medical and Social Aspects of Alcohol Abuse, p. 69.

²⁸Drug Abuse and Drug Abuse Research, 1987, p. 97-98.

²⁹R. L. DuPont, testimony before the Senate Subcommittee on Internal Security, May 1975, ref. 90, pp. 461-471. Quoted in Russell, Marijuana Today, p. 16.

with either drug alone, there are also undoubtedly individual differences in response to the drugs in combination."³⁰

Dispute. "No human being is known to have died of an overdose [of marijuana]. By extrapolation from animal experiments, the ratio of lethal to effective (intoxicating) dose is estimated to be on the order of thousands to one."³¹ "Delta-9-THC and related cannabinoids have very low lethal toxicity. ...The lack of well-authenticated cases of human deaths from acute delta-9-THC or cannabis overdose is consistent with the [described] animal data."³² Drawing from research conducted on the relationship between marijuana and alcohol, Dr. Sidney Cohen, of the Neuropsychiatric Institute, University of California at Los Angeles, concluded that "no evidence is at hand to indicate a greater life-threatening aspect to combined use over and above the toxicity of each drug used alone."³³

Dr. Cohen also stated that "there is little evidence that these drugs [marijuana and alcohol] antagonize the psychic effects of each other although one study has found such an effect at certain dosage levels. Nor has any investigation found evidence for a potentiating action (in which the combined effect is greater than the sum of the dosages of the two drugs). The current belief is that, when used together, the drugs are generally additive (the combined effect is the sum of the two doses)."³⁴

Alcohol. "Alcohol in large doses is an anesthetic, in less amounts it behaves as a sedative. As with all sedatives, it appears to stimulate thought and activity shortly after its ingestion. This biphasic effect produces an initial activation of social and verbal behavior associated with some lightening of mood and relaxation of tensions. As intake continues, sedation and a reduced contact with the environment occur, the

³⁰Marijuana Research Findings: 1980, pp. 38 and 170.

³¹"Marijuana," The Harvard Medical School Mental Health Letter, Vol. 4, No. 5, November 1987, p. 2.

³²Marijuana and Health, p. 24.

³³Sidney Cohen and Phyllis J. Lessin, Marijuana and Alcohol, Rockville, Md, The American Council for Drug Education, 1982, p. 23.

³⁴Ibid., p. 13.

end stage of which is coma and death."³⁵ "Fortunately for many users of alcohol, before this fatal level of anesthesia is reached, the vomiting center of the brain is activated, and--reinforced by the stomach irritation also produced by overdrinking--causes the user to vomit. The lives of many who overdose on alcohol are thus saved."³⁶

Other Considerations. "Since marijuana suppresses the brain's vomiting center, it is possible that people stoned on marijuana may, when also drinking large amounts of alcohol, not vomit before they pass out. This can cause a raised risk of deaths due to alcohol overdose."³⁷ "However, marijuana appears to be an insufficient deterrent to vomiting when excessive quantities of alcohol are involved."³⁸

Tobacco. I did not find any discussion of nicotine overdoses.

- 6) The THC content of commonly available marijuana has increased from less than one percent 10 years ago to as high as 10 percent today.

Support. The reports and studies reviewed indicate that the THC content in marijuana in the United States has increased during the last twenty years. "The marijuana used today is many times--five to ten times--stronger than in the 60s. At the beginning of the drug movement, marijuana with THC content as low as .02 to .5 percent was commonly available and marijuana with two percent THC was considered 'real good grass.' Now confiscated marijuana analyzed in government laboratories has been found to have THC content as high as 14 percent."³⁹

"'Street' marijuana has increased markedly in potency over the past five years. Confiscated materials in 1975 rarely exceeded one percent THC content. By 1979, samples as high as five percent THC content were common. 'Hash oil,' a marijuana extract unavailable a decade ago, has been found to have a THC content as high as 28 percent, with more typical samples analyzed by University of Mississippi chemists ranging from 15 to 20 percent THC."⁴⁰

³⁵Ibid., pp. 9-10.

³⁶DuPont, Getting Tough, p. 108.

³⁷Ibid., p. 109.

³⁸Gettman, personal communication, March 17, 1988.

³⁹Helen C. Jones, "On Marijuana Reconsidered," Executive Health, Vol. 10, No. 5, February, 1984.

⁴⁰Marijuana Research Findings: 1980, p. 2.

Dispute. In an upcoming article in the Journal of Psychoactive Drugs, Tod Mikuriya, M.D. and Michael Aldrich, Ph.D., "...show that the range of [marijuana] potencies available [in the early 1970s] (marijuana 0.1 to 7.8 percent, averaging 2.0 to 5.0 percent by 1975) was approximately the same as that reported now."⁴¹ "It is not useful to compare average low potencies with the full range of potencies available in reality. Nor is it valid to cite the low end of the range then as a baseline to compare with the high end of the range now."⁴²

Other Considerations. The THC content of a marijuana cigarette will vary greatly depending on the type of marijuana. Thus, the THC content of a marijuana cigarette today could be more or less than 10 percent per cigarette. Dr. Mikuriya notes that "An important consideration in regard to the potency issue is auto-titration, the adjustment of dose by the individual user to obtain maximal effects and avoid unpleasant ones," and he provides observations on the practice of auto-titration."⁴³

Tobacco. "Studies have demonstrated that many smokers who switch to lower 'tar' and nicotine cigarettes will compensate for the loss in smoke nicotine (and possibly other agents) by intensifying their smoke intake, puffing more frequently, and drawing larger volumes per puff."⁴⁴

- 7) Marijuana with THC content higher than one percent is generally available in the state, through both importation and local cultivation.

Support. Sergeant Swanson, Alaska State Troopers, said that according to the U.S. Drug Enforcement Agency, the average THC content in marijuana in

⁴¹Tod Mikuriya and Michael Aldrich, "Cannabis 1988: Old Drug, "New Dangers" -- The Potency Question," to be printed in Journal of Psychoactive Drugs, April 1988, (p. 17 of manuscript).

⁴²Ibid.

⁴³Ibid., pp. 16-17.

⁴⁴The Health Consequences of Smoking: The Changing Cigarette, a report of the Surgeon General, U.S. Department of Health and Human Services, Washington, D.C., U.S. Government Printing Office, DHHS(PHS) 81-50156, 1981, p. 97.

the United States is 1.8 percent. He is not aware of any studies of THC content on marijuana generally available in Alaska; however, he said the majority (estimates 90 percent) of the marijuana in Alaska is imported from source states such as California, Oregon, Washington and Hawaii. Sergeant Swanson added that Alaska marijuana growers appear to be following the nationwide trend of applying cultivation techniques to maximize THC content.⁴⁵

I did not find any research which disputes this finding.

- 8) Marijuana may cause schizophrenia, illusions, and hallucinations, including a dulling of the senses, creating the possibility that the user is unable to respond to body signals, such as pain.

Note. Wayne McCollum, Juneau Mental Health Center, said that the cause of schizophrenia is still unknown--the main theory is the existence of a genetic propensity or susceptibility. Psychosis is a major mental disorder in which the personality is very seriously disorganized and contact with reality is usually impaired. Schizophrenia is a functional psychosis (lack of apparent organic cause). Psychosis may also have organic causes such as brain damage, hypothermia or electrolyte imbalance. Dr. McCollum said there was no relationship between psychosis and an inability to respond to pain.⁴⁶

Support. Some researchers report that "The acute anxiety reaction that may occur during marijuana intoxication can include paranoid delusions,... a full blown acute toxic psychosis with loss of contact with reality, delusions, hallucinations...These acute reactions seem to occur most frequently in individuals who are under stress, depressed, or have a history of schizophrenia."⁴⁷

One researcher described a higher dose-related phase of cannabis intoxication as "...the appearance of delusions, labile emotions, particularly anxiety, decreased impulse control and, at the highest doses, profound

⁴⁵Sergeant Swanson, Alaska State Troopers, Anchorage, personal communication, March 24, 1988.

⁴⁶Wayne McCollum, Juneau Mental Health Center, personal communication, March 29, 1988.

⁴⁷Marijuana Research Findings: 1980, pp. 71-72. See also Marijuana and Health, p. 126.

sensory illusions and hallucinations."⁴⁸ Dr. Harris Isbell, with the University of Kentucky Medical Center, confirmed these findings, stating that "...the data in our experiments definitely indicate that the psychotomimetic (capable of inducing altered states of consciousness) effects of THC are dependent on dosage and that sufficiently high doses can cause psychotic reactions in any individual." Dr. Isbell classified cannabis among the hallucinogens.⁴⁹

One report stated that "...acute psychotic behavior resembling schizophrenic psychosis..." had been reported.⁵⁰ Another report said that "Sufficient clinical information is available to recommend abstinence for schizophrenics in remission, because of the danger of relapse."⁵¹

Another report states that "An acute brain syndrome associated with cannabis intoxication [which includes a] clouding of mental processes...has been reported. It is thought to be dose-related (much more likely at unusually high doses) and to be determined more by the size of the dose than by pre-existing personality." These symptoms have ..."not been frequently reported in the United States, possibly because until recently very strong cannabis materials were less readily available here than in some overseas locations. Acute brain syndrome also diminishes as the toxic effects of the drug wear off."⁵²

Other Considerations. A report by the National Institute on Drug Abuse states that "...it is often difficult to distinguish the role of cannabis from that of pre-existing psychological problems or other environmental precipitants in marijuana-related psychological difficulties. Frequently, heavy marijuana users are also those who have had emotional problems prior to use."⁵³

⁴⁸Marijuana Research Findings: 1980, p. 62.

⁴⁹Russell, Marijuana Today, p. 24.

⁵⁰Robert G. Heath, Marijuana and the Brain, Rockville, Md., The American Council on Marijuana and Other Psychoactive Drugs, 1981, p. 6.

⁵¹Drug Abuse and Drug Abuse Research, 1984, p. 77.

⁵²Marijuana Research Findings: 1980, p. 26.

⁵³Ibid., p. 27.

The American Psychiatric Association notes that "Descriptions of cannabis psychoses vary by culture, and most reports suggest a persistent delirium, which includes bizarre behavior and the potential for violence and panic feelings in the absence of a 'typical' schizophrenia-like psychotic state. There is fairly general agreement that persons suffering from marijuana psychosis do not develop psychotic symptoms characteristic of schizophrenia."⁵⁴

Alcohol. "About 25% of patients undergoing ethanol withdrawal manifest symptoms of sensory disorganization. These patients may suffer from nightmares and from illusions or hallucinations....Hallucinations may occur even while the patient is clear-thinking and oriented....Patients with delirium tremens hallucinations may be difficult to distinguish from those with schizophrenic disorders....Rarely, auditory hallucinations may persist after an individual has recovered from symptoms of alcohol withdrawal and is no longer drinking. This syndrome is known as alcohol hallucinosis, and these patients may go on to develop schizophrenia."⁵⁵

Tobacco. I did not find any related information on tobacco or nicotine.

- 9) Although it may take a heavy cigarette smoker as long as 20 years to develop lung cancer, one marijuana cigarette a day may cause lung cancer in three years.

Note. I did not find any research which directly supports this finding. The following addresses the topic of marijuana as a causative factor in cancer.

Support. "Several lines of evidence strongly suggest that habitual marijuana smoking may be a causative factor in the development of bronchogenic carcinoma [bronchial cancer]. [This] possibility is further supported by the several-fold greater deposition in the lower respiratory tract of tar particulates from the smoke of one marijuana joint compared to that from one tobacco cigarette. However, there is a long lag period between initiation of daily exposure to tobacco tar and the development of frank neoplasia. Moreover, smoking-related pulmonary malignancy will develop in only a small, albeit significant, percentage of smokers. For

⁵⁴American Psychiatric Association, "Position Statement on Psychoactive Substance Abuse and Dependence: Update on Marijuana and Cocaine," American Journal of Psychiatry, Vol. 144, No. 5, May 1987, p. 699.

⁵⁵Tabakoff and Rothstein, "Biology of Tolerance and Dependence," in Medical and Social Aspects of Alcohol Abuse, pp. 202-203.

this reason it will be difficult to document empirically a link between heavy, habitual marijuana smoking and lung cancer.⁵⁶

"Benzopyrene, a potent carcinogenic agent, is 50 percent more concentrated in the smoke of marijuana than smoke from varieties of high tar Kentucky tobacco."⁵⁷ "According to researchers at the American Health Foundation, marijuana smoke contains 50 percent more cancer-producing hydrocarbons than tobacco smoke."⁵⁸ Further, "...abnormalities suggestive of cancerous lesions have been recorded."⁵⁹

Dispute. A report by the National Institute of Drug Abuse states that "...there is as yet no direct evidence that it [marijuana] can play a causal role in lung cancer."⁶⁰ The Institute of Medicine also reported that "...The finding of known carcinogens in marijuana smoke and the presence of epithelial abnormalities known to be the precursors of lung cancer in heavy smokers of tobacco suggest the possible development of lung cancer in chronic, heavy users of marijuana and/or hashish after a prolonged period of use, especially if they are also smokers of tobacco. However, evidence to support this hypothesis is not available.

Because marijuana smoking is an ancient custom in Asia and the Middle East, lung cancer would be expected to be more prevalent in these parts of the world if a causal relationship did exist. Unfortunately, no reliable data have been gathered to settle this question. Heavy smoking of marijuana, in quantities comparable to that of tobacco, has been relatively uncommon in the United States. Therefore, the contribution of marijuana smoking to the incidence of primary lung cancer cannot yet be answered with any authoritative data."⁶¹

⁵⁶Donald P. Tashkin et al., "How the Lungs are Affected by Marijuana Smoking," The Journal of Respiratory Diseases, November 1987, p. 106.

⁵⁷Russell, Marijuana Today, pp. 54-55.

⁵⁸Jones, "On Marijuana Reconsidered," p. 2.

⁵⁹Marijuana and Health, p. 63.

⁶⁰Marijuana Research Findings: 1980, p. 3.

⁶¹Marijuana and Health, p. 63-64. "The Institute of Medicine was chartered in 1970 by the National Academy of Sciences to enlist distinguished members of the appropriate professions in the examination of policy matters pertaining to the health of the public."

Tobacco. "Research indicates that cigarette smoking causes cancer of the lung, larynx, oral cavity, and esophagus, and is significantly associated with pancreas, urinary bladder, and kidney cancer in both men and women."⁶²

Other Considerations. Dr. Wu and others note that "Long-term adverse pulmonary consequences of tobacco smoking have been shown to be related to dose. For example, the incidence of chronic obstructive pulmonary disease or bronchogenic carcinoma in smokers of fewer than 5 to 10 cigarettes a day is substantially less than in habitual smokers of more than 20 tobacco cigarettes a day. Although regular tobacco smokers consume more than 15 tobacco cigarettes a day, most current smokers of marijuana smoke less than 1 marijuana cigarette a day. Even among the estimated 6 million daily smokers of marijuana in the United States, smoking more than five marijuana cigarettes a day is unusual."⁶³ They found "the net respiratory burden of particulates was approximately four times greater during marijuana smoking than tobacco smoking."⁶⁴ "Accordingly, despite the presence of four times the tar and carbon monoxide of a tobacco cigarette, a single marijuana cigarette consumed daily presents less of a health risk than a quarter of a pack of tobacco cigarettes."⁶⁵ Dr. DuPont notes that "...more than 80 percent of marijuana smokers also smoke tobacco cigarettes...."⁶⁶

Alcohol. "Heavy drinkers have an increased risk of cancer of the mouth, esophagus, stomach, liver, and bladder. This risk is even greater if they also smoke cigarettes, as many heavy drinkers do...the risk of cancers is increased for drinkers, and it is increased for smokers, but for those who are both drinkers and smokers, the extra risk is not merely additive--it

⁶²The Health Consequences of Smoking: The Changing Cigarette, a report of the Surgeon General, U.S. Department of Health and Human Services, Washington, D.C., U.S. Government Printing Office, DHHS(PHS)81-50156, 1981, p. 79.

⁶³Tzu-Chin Wu et al., "Pulmonary Hazards of Smoking Marijuana as Compared with Tobacco," The New England Journal of Medicine, February 11, 1988, p. 349.

⁶⁴Ibid., p. 350.

⁶⁵Gettman, personal communication, March 25, 1988.

⁶⁶Dupont, Getting Tough, p. 69.

appears to be multiplicative. Alcohol also acts as a promoter of cancers in the lungs, the pancreas, the intestines, and the prostate."⁶⁷

- 10) THC affects eggs, sperm, sexual hormones, and the development of a fetus, and marijuana use may result in deformed or undersized offspring.

Effects on the Reproductive System.

Support. Several writers state that "Studies have shown that THC accumulates in the ovaries of the female, where it will kill and injure eggs" and that, in males, a "...significant decrease in sperm concentration and total sperm count occurs."⁶⁸ "This effect is apparently accompanied by a decline in sperm motility and an increase in abnormal sperm forms."⁶⁹

"Studies with laboratory animals clearly show that the crude drug marijuana and THC...inhibit secretion of the pituitary hormones, luteinizing hormone and follicle stimulating hormone, as well as prolactin. These changes in pituitary hormone levels produce decreases in sex steroid hormones and cause disruption of ovulation and spermatogenesis. With chronic drug use, disruption of sex accessory organs (e.g., uterus and vagina in the female; prostate gland and seminal vesicles in the male) has also been observed."⁷⁰

Dispute. "In men, a single dose of THC lowers sperm count and the level of testosterone and other hormones. Tolerances to this effect apparently develop; in the [1980] Costa Rican study, marijuana smokers and controls had the same testosterone levels. Although smokers in that study began using marijuana at an average age of 15, it had not affected their masculine development. There is no evidence that the changes in sperm count and testosterone produced by marijuana affect sexual performance or fertility."⁷¹

⁶⁷Dupont, Getting Tough, pp. 110-111.

⁶⁸Marijuana, Narcotic Information Bulletin, No.1-80, p. 2.

⁶⁹Carol Grace Smith and Ricardo H. Asch, Marijuana and Reproduction, Rockville, Md., The American Council for Drug Education, 1982, pp. 16-17.

⁷⁰Ibid., p. 7.

⁷¹"Marijuana," The Harvard Medical School, p. 4.

Other Considerations. Researchers have found that "...many of the endocrine effects caused by the chronic treatment of animals with THC are reversible or decrease as tolerance to the drug develops. Still, many questions remain regarding the long-term consequences of use, for example, on sperm formation, psychosexual maturation, and sex organ function. Until these and other issues are resolved, marijuana consumption by adolescents or males with marginal fertility poses uncertain reproductive hazards."⁷²

Alcohol. "Hypoandrogenization is commonly seen in chronic alcoholic men. Thus 70% to 80% experience decreased libido and/or impotence. Reproductive failure...is common, with 70% to 80% demonstrating both testicular atrophy and infertility. Histologic studies...demonstrate loss of mature [sperm], many of which have an abnormal morphology."⁷³ "In addition to being hypogonadal, chronic alcoholic men are often grossly hyperestrogenized."⁷⁴ "[Some] signs of chronic alcoholism, unlike the transient impotence experienced with an acute alcoholic bout, persist in the absence of intoxication and are due to alcohol-induced tissue injury....Testosterone concentrations can be shown to fall in normal male volunteers within hours of their ingesting sufficient alcohol to produce hangover."⁷⁵

"In contrast to the male, the alcoholic female is not superfeminized but instead shows severe gonadal failure commonly manifested by oligoamenorrhea, loss of secondary sexual characteristics..., and, in addition, infertility."⁷⁶

Tobacco. "Spermatogenesis, sperm morphology, sperm motility and androgen secretion appear to be altered in men who smoke. [A researcher] has demonstrated decreased sperm density, a cigarette-dose-dependent decrease

⁷²Drug Abuse and Drug Abuse Research, 1987, p. 79.

⁷³David H. Van Thiel, "Effects of Ethanol upon Organ Systems Other than the Central Nervous System," in Medical and Social Aspects of Alcohol Abuse, p. 111.

⁷⁴Ibid, p. 113.

⁷⁵Ibid, p. 111.

⁷⁶Ibid, p. 115.

in sperm motility, and a cigarette-dose-dependent increased abnormal sperm morphology among smokers."⁷⁷

"Several epidemiological studies have suggested that smoking decreases fertility in women....a 46 percent excess of infertility was found in women who smoked....Experimental studies have demonstrated alterations in luteinizing hormone release and a decreased ovulatory response in rats exposed to tobacco smoke."⁷⁸

Effects on the Developing Fetus and Offspring

Note. It has been found that "...tobacco and marijuana smoking, and alcohol and other drug abuse frequently occur in the same women. Therefore, some of the adverse effects on fetal development attributed to maternal drinking or smoking may be due to an interaction with marijuana and other psychoactive substances. When a number of these substances are consumed together, their toxic effects on the fetus may be additive."⁷⁹

Support. Several reports state that "...the risks of pregnancy loss and other adverse effects on the fetus are increased by marijuana use... significant changes consistent with retardation of fetal growth and development have been observed."⁸⁰ "Low maternal weight gain during pregnancy, maternal illnesses during pregnancy, and cigarette and marijuana smoking during pregnancy were consistently related to adverse fetal development. Women who used marijuana during pregnancy delivered infants with significantly smaller birth weight, body length and head circumference, as well as infants who were five times more likely to have features compatible with the fetal alcohol syndrome."⁸¹ Maternal marijuana use has been

⁷⁷The Health Consequences of Smoking for Women, a report of the Surgeon General, U.S. Department of Health and Social Services, Rockville, Md., Public Health Service, 1980, pp. 236-237.

⁷⁸Ibid, pp. 235-236.

⁷⁹R. Hingston et al., "Effects on Fetal Development of Maternal Marijuana use during Pregnancy," 1984, cited in Drug Abuse and Drug Abuse Research, 1987, p. 80.

⁸⁰Smith, Marijuana and Reproduction, p. 8.

⁸¹Ibid., pp. 16-17.

found to be the strongest independent predictor of fetal alcohol syndrome (FAS). "It was a better predictor of the FAS than alcohol use."⁸²

At the University of California-Davis, Dr. Ethel Sassenrath, on exposing pregnant rhesus monkeys (who have a reproductive system similar to humans), to THC in doses equal to one or two marijuana cigarettes a day for humans, found significantly lower weight gains during pregnancy and 40 percent of the conceptions ending in miscarriages, fetal deaths, stillbirths, or infant deaths shortly after birth.⁸³

Dispute. A report which does not support this finding states that "...Cannabis is teratogenic at high doses in animals."⁸⁴ Gross malformations in human infants due to prenatal exposure to cannabis are not yet completely proven."⁸⁵ "In another investigation no particular effects of maternal marijuana use upon the newborn were found except for a decrease in length and an increase in male infants delivered in the marijuana group."⁸⁶ "There are also reports of low birth weight, prematurity, and even a condition resembling the fetal alcohol syndrome in some children of women who smoke marijuana heavily during pregnancy. The significance of these reports is unclear because controls are lacking and other circumstances make it hard to attribute causes."⁸⁷

Alcohol. "On the basis of numerous clinical and epidemiological studies, it appears that in utero alcohol exposure can result in a wide range of effects, with the full-blown FAS at one extreme and the only barely perceptible FAE [fetal alcohol effects] as the other end of the continuum is approached. Such variability may be due to differences in in utero blood alcohol exposure, daily exposure versus binge drinking, genetic

⁸²R. Hingston, et al., 1982 and 1985, cited in Drug Abuse and Drug Abuse Research, 1987, p. 80.

⁸³Russell, Marijuana Today, p. 61.

⁸⁴Teratogenic is producing malformed babies.

⁸⁵E.L. Abel, "Effects of prenatal exposure to cannabinoids," 1985, cited in Drug Abuse and Drug Abuse Research, 1987, p. 80.

⁸⁶K. Tennes et al, "Marijuana: Prenatal and Postnatal Exposure in the Human," 1985, cited in Drug Abuse and Drug Abuse Research, 1987, p. 81.

⁸⁷"Marijuana," The Harvard Medical School, p. 4.

sensitivity, gestational time of exposure, interactions with other drugs, nutritional status, and so on."⁸⁸

Tobacco. "Smoking is a major risk factor for low birth weight and, consequently, fetal morbidity and mortality. Tobacco smoke may influence the fetus either through alterations in maternal physiology that limit the nutrient flow to the fetus or by the transplacental passage of smoke components that have direct effect on the fetus."⁸⁹ "Studies have identified specific areas in which the effects of maternal smoking during pregnancy may occur. These include fetal growth, most often determined by comparing birth weights of smokers' babies with those of otherwise similar nonsmokers' babies; spontaneous abortions, fetal deaths, and neonatal deaths; pregnancy complications, including those that predispose to preterm delivery; possible effects on lactation; and long term effects on surviving children."⁹⁰

- 11) Other physical reactions to marijuana include irreversible changes in the brain, sinusitis, pharyngitis, bronchitis, emphysema, increased heart rate, and decreased blood circulation.

Irreversible Changes in the Brain

Support. One report which supports this finding stated that "...exposure to...THC...at doses commensurate with those used by human marijuana smokers, produces permanent changes in brain function and structure of monkeys, a subhuman primate close to man."⁹¹

Dispute. The Institute of Medicine, in their summary on marijuana's effect on the brain stated that "There is no persuasive evidence that marijuana causes morphological changes in the brain...studies on users of marijuana reveal no gross changes in brain structure. Electron micrographic studies of monkey brains indicating morphologic changes are

⁸⁸Ernest L. Abel, Carrie L. Randall and Edward P. Riley, "Alcohol Consumption and Prenatal Development," in Medical and Social Aspects of Alcohol Abuse, p. 223.

⁸⁹The Health Consequences of Using Smokeless Tobacco, A Report of the Advisory Committee to the Surgeon General, U.S. Department of Health and Human Services, Bethesda, Md., National Institute of Health Publication No. 86-2874, 1986, p. 178.

⁹⁰The Health Consequences of Smoking for Women, p. 191.

⁹¹Heath, Marijuana and the Brain, p. 10.

methodologically flawed and cannot be used as evidence for an effect of marijuana on brain cell morphology. Clear effects on brain electrical activity in human beings and in animals have been found after drug exposure. These effects have not been demonstrated to persist in human beings after the drug has been discontinued...Current evidence has shown marijuana causes some chemical changes in [the] brain...At high doses marijuana also has been shown to affect nucleoprotein synthesis."⁹²

Other Considerations. "There are too few reliable data presently available to permit a valid conclusion concerning marijuana use and cerebral atrophy, but the seriousness of such an effect, if it exists, should make it an important priority for further neurological study."⁹³ The 1987 NIDA report to Congress also notes the need for further research on marijuana's effects on the brain.⁹⁴ Dr. Heath explains two difficulties in studying the effects of marijuana on the human brain "...1) In order to see what effect, if any, pot is having on brain cells--you have to kill the subject, cut up the brain, and look at cells under a high-powered electron microscope...." and 2) even when humans die and leave their bodies to science, there is a lack of controls--no way to prove if damage is found that it came from marijuana rather than alcohol or other drugs."⁹⁵

Alcohol. "Long term consumption of alcoholic beverages can lead to a number of pathologic conditions of the brain. Among them are a number of neurologic diseases,....Some of these diseases result from nutritional deficiencies, while others result from a direct neurotoxic effect of ethanol. Studies in both humans and experimental animals have demonstrated the presence of cerebral atrophy after long-term ethanol consumption and the loss of cells in certain parts of the brain, especially the hippocampus and cerebellum. Other investigations suggest that the loss of certain receptors specific for a given neurotransmitter or other biologically active substance might contribute to some of the medical complications associated with chronic ethanol usage."⁹⁶

⁹²Marijuana and Health, p. 89.

⁹³Russell, Marijuana Today, p. 53.

⁹⁴Drug Abuse and Drug Abuse Research, 1987, pp. 84-85.

⁹⁵Mann, Pot Safari, p. 23-24.

⁹⁶Walter A. Hunt, "Ethanol and the Central Nervous System," in Medical and Social Aspects of Alcohol Abuse, p. 155.

Tobacco. I did not find any material relating to nicotine or tobacco caused pathologies of the brain.

Pulmonary Effects

Support. "Short-term use of marijuana causes bronchodilation, an alteration in ventilatory control, and a substantial increase in end-expired carbon monoxide. Long-term use produces tachyphylaxis and airflow obstruction, and potentiates [increases the effect of] tobacco in causing airway hyperreactivity. Marijuana smoking appears to have its major impact on the large airways, in contrast to tobacco smoking, which primarily affects the peripheral airways and alveolated regions. Bronchoscopic studies of the mucosa of marijuana smokers have revealed abnormalities such as loss of cilia, basal cell and goblet cell hyperplasia, squamous metaplasia, and inflammation."⁹⁷

I found no information to dispute these findings.

Tobacco. Dr. C. Everett Coop, the Surgeon General, estimated "that 80 and 90 percent of chronic lung disease in the country is directly attributed to cigarette smoking..."⁹⁸

Alcohol. "Chronic obstructive pulmonary disease is common among males who abuse ethanol and especially among those who smoke. Until recently chronic alcohol abuse has been a disease limited to males, most of whom also smoke; thus the finding of an association between chronic obstructive lung disease and alcohol abuse would not be particularly surprising. Other pulmonary problems are also common in alcoholics...With advanced liver disease, cyanosis, hyper-ventilation, and hypoxia due to pulmonary arteriovenous fistula are a common occurrence."⁹⁹

⁹⁷Donald P. Tashkin, Henry Gong, Jr. and Suzanne E. G. Fligiel, "How the Lungs are Affected by Marijuana Smoking," The Journal of Respiratory Diseases, Vol. 8, No. 11, November 1987, p. 87.

⁹⁸"The Chronology of U.S. Warning Against Cigarettes," World Health, October 1984.

⁹⁹Van Thiel, "Effects of Ethanol Upon Organ Systems," in Medical and Social Aspects of Alcohol Abuse, pp. 110-111.

Cardiovascular Effects

Support. "Marijuana appears to intensify the effects of the sympathetic nervous system on the heart, an undesirable consequence in patients with coronary artery disease and in those susceptible to arrhythmias. Many of the undesirable effects of marijuana on the cardiovascular system seem to become less severe following chronic exposure."¹⁰⁰

Other Considerations. The Institute of Medicine summarized their findings on marijuana's effects on the cardiovascular system with the following: "The smoking of marijuana causes changes in the heart and circulation that are characteristic of stress. But there is no evidence to indicate that it exerts a permanently deleterious effect on the normal cardiovascular system...Evidence abounds that marijuana increased the work of the heart, usually by increasing heart rate, and in some persons by increasing blood pressure. This increase in workload poses a threat to patients with hypertension, cerebrovascular disease, and coronary atherosclerosis."

Alcohol. "The cardiovascular effects of alcohol are minimal but, under certain circumstances, may hasten death. ...Even lethal quantities of alcohol do not significantly impair myocardial function; the heart usually continues to contract for some time after respiratory movements have stopped."¹⁰¹

Tobacco. A Surgeon General's report states "It has long been known that nicotine elevates blood pressure and heart rate and may increase the onset of angina pectoris attacks.The effects of carbon monoxide in reducing the oxygen-carrying capacity of the blood are well known."¹⁰²

- 12) Other psychological reactions to marijuana include loss of memory, anxiety, panic, paranoia, psychosis, psychological dependence, and impairment in thinking, reading comprehension, verbal and arithmetic problem solving, and perception of distance and time.

Note. See related information above, sections (a)(4) and (8).

¹⁰⁰Marijuana and Health, p. 72.

¹⁰¹Frederick G. Hofman, A Handbook on Drug and Alcohol Abuse: The Biomedical Aspects, 2nd ed. rev., New York, Oxford University Press, 1983, pp. 103-104.

¹⁰²The Health Consequences of Smoking, 1981, p. 46.

Support. Dr. Ronald C. Bloodworth, Clinical Director at the Psychiatric Institute of Atlanta, reported that "...Many heavy users suffer from distorted emotional responses, disordered thinking, and loss of memory and motivation." Dr. Bloodworth also reported that there is enough evidence to confirm that psychologic dependence is common among marijuana users and that physical dependence can also occur.¹⁰³

Other studies concur with Dr. Bloodworth's findings: "...cannabis intoxication...impairs judgments of distance and time, memory for recent events, ability to learn new information, and physical coordination,"¹⁰⁴ and, "...several studies have shown that marijuana intoxication impairs driving, flying and other complex skilled activities. Many elements of effective psychomotor performance are worsened by the drug because of decrements in recent memory, tracking performance, glare recovery, motor coordination, depth perception, time sense, and peripheral vision."¹⁰⁵

"Under the influence of moderate doses of the drug, most investigators report that subjects consistently overestimate the amount of time that has elapsed. Thus, under the influence of marijuana, a given event is reported to last longer than it actually does last."¹⁰⁶

"Marijuana's popularity notwithstanding, a surprisingly high proportion of users report reactions that they regard as unpleasant or undesirable. For example, 33 percent of regular users reported that while intoxicated they occasionally experienced such symptoms as acute panic, paranoid reaction, hallucinations, and unpleasant distortions in body image."¹⁰⁷

Another study reported that "16 percent of regular users reported anxiety, fearfulness, confusion, dependency, or aggressive urges as a usual occurrence. Acute paranoic reactions under controlled conditions has also been reported."¹⁰⁸

"Cannabis psychosis refers to a chronic psychotic condition (out of contact with reality) reportedly seen in heavy marijuana users, but extending

¹⁰³Jones, "On Marijuana Reconsidered," p. 4.

¹⁰⁴Marijuana Research Findings: 1980, page 67.

¹⁰⁵Ibid, p. 71.

¹⁰⁶Marijuana and Health, p. 116.

¹⁰⁷Ibid., p. 121.

¹⁰⁸Ibid., pp. 122-123.

beyond the period of acute intoxication. Some authors have described a schizophrenia-like picture with delusions and hallucinations."¹⁰⁹

"Although infrequent..psychiatric problems can emerge. Acute anxiety and panic states from use of the drug are known, especially in persons who have never used marijuana before. Acute paranoid states will occur at times in experienced smokers who have previously used the drug without untoward reaction."¹¹⁰

Other Considerations. "The pure chronic marijuana user is hard to find. Heavy marijuana users are typically either in a state of transition toward the use of other mind-altering substances, or are already multiple drug abusers who happen to believe that marijuana is producing the difficulties that require treatment. These concerns include panicky feelings, especially about changes in time sense, difficulties in sensing how other people are responding to the individual, or fears of losing control."¹¹¹

Alcohol. "Ethanol has a most profound effect on the central nervous system. It acts as a depressant of neural function in a number of ways, an effect that is made obvious by ethanol's disruption of behavior. Apparent stimulatory effects--which include feelings of euphoria, talkativeness, and relief of tension--are observed after low doses of ethanol. Agressiveness can also be seen after ethanol consumption....With increasing doses of ethanol, there is a progressive reduction in motor coordination, including disturbances in gait, equilibrium, and reaction time. Learning, memory, and speech are impaired as well."¹¹² "More direct studies of the effect of ethanol on anxiety have not been conclusive; results seem to depend on the experimental design used."¹¹³

Tobacco. "Most drugs of abuse have, or have had, therapeutic uses. Nicotine is no exception....As an anxiety reducing drug, nicotine appears to diminish responses to stress and to enhance mood. It also reduces

¹⁰⁹Ibid., p. 124.

¹¹⁰Cohen, "Effects of Long Term Marijuana Use," p. 158.

¹¹¹Drug Abuse and Drug Abuse Research, 1987, p. 86.

¹¹²Hunt, "Ethanol and The Central Nervous System," in Medical and Social Aspects of Alcohol Abuse, p. 155.

¹¹³Ibid., p. 136.

aggressive responses in experimental situations. Nicotine improves performances involving speed, reaction time, vigilance and concentration. Such effects are strongest in smokers deprived of cigarettes, but also occur when nicotine is administered to nonsmokers or when the nicotine dose of smokers is increased....Since nicotine (as tobacco) is so widely legally available, is inexpensive, and its doses are so easily regulated, it is a very convenient means of self-medication. These combined properties probably add to the abuse liability of tobacco, thus making treating tobacco dependence especially difficult.¹¹⁴

- 13) The use of even small amounts of marijuana by adults in the home subjects children present to a substantial health hazard.

Note. "Small amounts," "substantial" and "health hazard" are all undefined terms which make this finding extremely ambiguous and therefore, difficult to respond to.

Passive Smoking. The 1983 Surgeon General's report "cited 'very solid' evidence that 'passive smoking' poses a health problem to non-smokers, and especially to children. Those from smoking households have been shown to be more susceptible to respiratory diseases than those whose parents are non-smokers."¹¹⁵ This finding is based on cigarette smoking. I did not have access to any current information on passive marijuana smoking.

- 14) Marijuana and tetrahydrocannabinols have been found by the United States Congress to possess a high potential for abuse.

Support. Marijuana is currently classified as a Schedule I drug (no medical usefulness, high potential for abuse) under Title 21, U.S. Code Section 812 (c)(10). "The removal of THC from Schedule I, to Schedule II (medical usefulness, high potential for abuse) is underway."¹¹⁶

Alcohol. I did not locate a Congressional finding on alcohol's potential for abuse; however, the heading "alcoholics and alcoholism" in the U.S. Code index contains five pages of entries.

¹¹⁴Drug Abuse and Drug Abuse Research, 1987, pp. 98-99.

¹¹⁵As quoted in "The Chronology of U.S. Warning," World Health, October 1984.

¹¹⁶Drug Abuse and Drug Abuse Research, 1987, p. 77.

Tobacco. "Taken together, data collected on the various psychometric instruments confirm that nicotine is psychoactive, is a euphoriant, and is appropriately categorized as a drug with potential to produce abuse or addictive behavior."¹¹⁷ "When systematically compared to prototypic drugs of abuse, tobacco is similar on most usual, and all critical, points of comparison."¹¹⁸

(b) The legislature further finds that:

- 1) Patterns of marijuana use in the state have changed over the past decade.

Without defining the patterns of use and the type change, this statement is extremely ambiguous. I am unable to respond without presuming the author's meaning.

- 2) The daily use of marijuana in the state has increased to as high as four percent among the general population and as high as six percent among secondary school students.

Matt Felix, Coordinator, State Office of Alcoholism and Drug Abuse said that the only valid studies of drug use in Alaska of which he is aware were conducted by Dr. Bernard Segal, The Center for Alcohol and Addiction Studies, University of Alaska Anchorage. In 1982-83, surveys on the patterns of drug use in communities and schools were conducted. In 1987 Dr. Segal again conducted school surveys--the comprehensive report on his findings should be completed by mid-April. None of Dr. Segal's surveys asked about the daily use of marijuana; therefore, I am unable to confirm the figures presented in this finding.

Dr. Segal's Adolescent Drug-Taking Behavior Followup Study results for Juneau and Fairbanks have been released.¹¹⁹ Data on lifetime experiences with marijuana, alcohol and tobacco are presented below:

¹¹⁷Drug Abuse and Drug Abuse Research, 1983, p. 94.

¹¹⁸Drug Abuse and Drug Abuse Research, 1987, p. 94.

¹¹⁹Bernard Segal, "Adolescent Drug-Taking Behavior Followup Study: Juneau" (October 1987) and "Fairbanks North Star Borough School District" (Preliminary Report, January 1988), mimeographed, available from School District Superintendents.

Lifetime Experiences (used one or more times)
Grades 7-12
Expressed as Percent of Students Surveyed

		1987	1982/83	Change
Marijuana	Juneau	53.3	51.7	+ 1.6
	Fairbanks	47.8	40.1	+ 7.7
Alcohol	Juneau	69.1	70.1	- 1.0
	Fairbanks	73.7	65.8	+ 7.9
Tobacco (smoking)	Juneau	65*	40*	+24.7
	Fairbanks	71.1	48.5	+22.6

*approximately--presented in graph form only

Dr. Segal notes that "What is evident is that the prevalence of marijuana has been high, and that both experimental and regular use has occurred. Experimental use (1-2 times) was highest during the past month, suggesting ongoing infrequent or experimental use. In contrast to this pattern, a large number of students have used marijuana extensively. Over 30% of those having used marijuana did so 40 or more times during their lifetime, over 20 percent did so during the past year, and slightly over 5 percent reported having used marijuana forty or more times during the past month. Overall, many students have apparently tried and continue to use marijuana, following a pattern that ranges from infrequent to what may be termed 'regular' use."¹²⁰

- 3) Marijuana use in the state within both the general population and among adolescents is significantly higher than in the nation as a whole.

Support. Dr. Segal said marijuana use in Alaska continues to exceed national standards; however, he said that he believes the national estimates of marijuana use are low. He explained that Alaskans may be more willing than others to acknowledge use.¹²¹

Other Considerations. Mr. Gettman of NORML notes that "anomalies in data on the supply and consumption of marijuana in the United States suggest

¹²⁰Segal, "Adolescent Drug-Taking Behavior Followup Study: Juneau," October 1987, p. 8.

¹²¹Bernard Segal, personal communication, March 16, 1988.

that far more people use marijuana than surveys have indicated in the past. It may be that in a non-criminal atmosphere such as Alaska's, people are more open with surveyors concerning personal marijuana use."¹²² He cites a National Narcotics Intelligence Consumers Committee Report which lists "marijuana consumption in the United States as being close to 10 million pounds per year....[and] supply as being approximately 30 million pounds a year."¹²³ Mr. Gettman notes the discrepancy between demand and supply as proof of underreporting of use.

Alcohol. "In 1985, the equivalent of 4.35 gallons of absolute alcohol was sold per person over age 21 in Alaska. The U.S. average rate is 2.52 gallons per person."¹²⁴

Tobacco. In 1985, the incidence of tobacco smoking among adults was 33.8 percent (40.3 percent males, 27.3 percent females) in Alaska. The U.S. average was 26.5 percent (29.5 percent males, 23.8 percent females). Of the 50 states, Alaska had the highest rate of tobacco smoking.¹²⁵

- 4) There is a direct relationship between the use of marijuana at home by adults and the percentage of secondary school students who experience disciplinary and academic problems in public schools; over the last three years in the Anchorage School District, of the 230 students who have been suspended from school for possession or use of marijuana, 29 percent have indicated that marijuana is used by adults in their living environment.

Senator Fischer's office advised me that this information came from Theresa Johnson, formerly with the Anchorage REACH program and currently principal at McLaughlin Youth Center. Ms. Johnson said that these figures were self disclosed by parents as part of the in-take process at REACH. She said the

¹²²Gettman, personal communication, March 28, 1988.

¹²³National Narcotics Intelligence Consumers Committee, The Supply of Illicit Drugs to the United States from Foreign and Domestic Sources in 1985 and 1986, 1987, as cited by Gettman, personal communication, March 25, 1988.

¹²⁴Annual Report to the Legislature 1986, Office of Alcoholism and Drug Abuse, Alaska Department of Health and Social Services, DHSS SOADA 87-1, p. 4.

¹²⁵Louise Wiseman, American Lung Association, Washington, D.C., personal communication, March 28, 1988.

figures cited in the above finding were a generalization and are unsubstantiated. Ms. Johnson indicated that they were prepared in response to an informal request--she was not aware they had been incorporated into SB 32.¹²⁶

Other Considerations. This finding is based on unscientifically gathered data. No baseline statistics exist on the use of marijuana by adults in the homes of the general student population. In addition, the collection of such data would be hampered by AS 14.03.110, which prohibits the administration of surveys or questionnaires, whether anonymous or not, which inquire into private family affairs unless written permission is obtained from the student's parent or guardian.

- 5) The changing patterns of marijuana use and the relationship between marijuana use by adults and adolescents have significantly compromised the state's legitimate efforts to prevent the spread of marijuana use to adolescents and protect the health of adolescents.

Support. Dr. Segal said that a modelling effect among young adults and youth is to some degree true.¹²⁷ "Marijuana users tend to turn others on to its use, 25 percent within two years of first use, and 29 percent within five or more years after first marijuana use."¹²⁸

"Marijuana use is a problem that frequently follows a habitual pattern within the family. ...there tended to be a correlation between the amount of marijuana used by high schoolers and the rate of tranquilizer, stimulant, and barbiturate use by the parents,....marijuana use by peers is a better predictor than drug use by parents. There appears to be an additive factor since all of those with the highest use were reported by subjects whose best friends and parents were drug users."¹²⁹

Other Considerations. I am unable to substantiate all aspects of this finding. "The changing patterns of marijuana use," "the relationship between marijuana use by adults and adolescents," "significantly compromise," "legitimate efforts," and "protect the health of adolescents" are ambiguous.

¹²⁶Theresa Johnson, personal communication, March 18, 1988.

¹²⁷Segal, personal communication, March 16, 1988.

- (c) The legislature further finds there is a legitimate and compelling governmental interest, based on testimonial and scientific evidence, that the public health and welfare will suffer if personal use of marijuana even in small amounts is allowed.

The information which I have gathered in responding to the findings presented in CSSB 32(HESS) is based on only a fraction of the material which has been published on marijuana, alcohol and tobacco. In response to finding (c), I am presenting a selection of comments relating to drug use and users.

A Social Problem. Dr. Segal said that an important aspect of drug use, particularly marijuana, is that use has become reasonably normative--nonusers are now the exception--and therefore, the problem should not be dealt with punitively. He added that among youth, trying marijuana one or two times may have become part of the "rites of passage." He is concerned that the stigma attached to penalties which may be imposed on a one or two time user would do greater harm than the experimental use of marijuana. He stated that marijuana use needs to be treated "as a social problem which interrelates with the justice system rather than as a criminal problem."¹³⁰

Dr. Segal's 1982-83 school survey asked students their reasons for not trying drugs or for stopping drugs. He found that "Of the reasons listed,...fear of damage to one's mind is the most frequently given reason for not trying a drug. Other important reasons are fear that drugs may hurt one's body, and fear that they may cause addiction. Just over a third responding also did not try drugs because they are illegal, and because it was not important for them to try....Reasons for cessation of taking any type of drugs parallel the pattern established for not trying drugs. Fear of damage to one's mind is primary, and friend's disapproval is the least cited reason for stopping. In all, it appears that focusing on students' concerns about the potential adverse psychological and physical consequences of taking drugs may be the most influential way to direct educational/preventional efforts."¹³¹

¹²⁸H. L. Voss and R. R. Clayton, "'Turning on' other persons to drugs," 1984, cited in Drug Abuse and Drug Abuse Research, 1987, p. 78.

¹²⁹National Institute on Drug Abuse, Marijuana and Youth: Clinical Observations on Motivation and Learning, Washington, D.C., U.S. Government Printing Office, DHHS(ADM) 82-1186, 1982, p. 75.

¹³⁰Segal, personal communication, March 16, 1988.

Marijuana Use. "By age 20, the major risk for initiation to use marijuana, tobacco, and alcohol is essentially completed. Marijuana use begins to decline by age 22.5. This pattern is similar for males and females. Marijuana use is associated with greater use of other substances, with membership in networks of marijuana users, with less participation in conventional activities, with histories of psychiatric hospitalizations, with lower self perceived psychological well being, and with participation in deviant activities."¹³²

Gateway Drugs. "An incredible 81% of tobacco smokers have tried marijuana, compared with 17% of non-smokers. Further, tobacco smokers are 14 times more likely to use cocaine, amphetamines, and heroin."¹³³

Drug Seeking Behavior. "The misery inflicted by some of these [alcohol-related neurological] diseases may induce people to seek relief by drinking alcohol and may, thereby, contribute to the perpetuation of alcohol consumption. A consequence becomes a cause, and a self-perpetuating circle is established.It has been stated simplistically that to prevent these diseases people should stop drinking alcohol. In analogy, one might suggest that marital problems can be solved by abolishing marriage or traffic accidents be prevented by abolishing cars. Drug-seeking behavior is a powerful psychological force. It is not eliminated by prohibition or the distant threat of a physical disease."¹³⁴

* * *

I hope this information is useful to you. If you have any questions, please contact this agency.

¹³¹Bernard Segal et al, Patterns of Drug Use: School Survey, Center for Alcohol and Addiction Studies, University of Alaska Anchorage, 1983, p. 138.

¹³²D. B. Kandel, 1984, cited in Drug Abuse and Drug Abuse Research, 1987, p. 78.

¹³³Marijuana: A Second Look at Health Hazards, The American Lung Association, No. 4836, August 1985.

¹³⁴Gerhard Freund, "Neurologic Diseases Associated with Chronic Alcohol Abuse," in Medical and Social Aspects of Alcohol Abuse, 1983, p. 182.

STATE OF ALASKA

DEPARTMENT OF LAW

CRIMINAL DIVISION

STEVE COWPER, GOVERNOR

REPLY TO

CRIMINAL DIVISION CENTRAL OFFICE
P.O. BOX KC
JUNEAU, ALASKA 99811-0310
PHONE: (907) 465-3428

OFFICE OF SPECIAL PROSECUTIONS
AND APPEALS
1031 WEST 4TH AVENUE, SUITE 318
ANCHORAGE, ALASKA 99501-5997
PHONE: (907) 279-7424

April 8, 1988

Honorable Fran Ulmer
Alaska State House
P.O. Box V (Mail Stop 3100)
Juneau, Alaska 99811

Dear Representative Ulmer:

This is in response to your request for our comments on specific aspects of HB 55. If HB 55 is adopted in its present form, possession of any amount of marijuana will be a class B misdemeanor. A Class B misdemeanor is punishable by not more than 90 days in jail or a \$1,000 fine. See, AS 12.55.035(b)(4) and 12.55.135(b).

It has never been the policy of the Department of Law to obtain search warrants for people's homes to look for small amounts of marijuana and we do not expect to change this policy anytime in the future. Irrespective of that policy, there is a substantial question whether or not a search warrant may be obtained for a marijuana offense which is classified merely as a violation. A violation is punishable by a fine or no more than \$300. See, AS 12.55.035(b)(5). Since a jail term is not authorized, the penalty may be interpreted to be non-criminal. As a result, there is a question if it is technically a "crime". AS 11.81.900(b)(9) defines crime as a felony or misdemeanor punishable by jail time. AS 11.81.900(b)(56) defines violation as a "noncriminal" offense.

Although there is some question as to whether it could be overturned, Ravin v. State, 537 P.2d 494 (Alaska 1975) is still the law of Alaska. It would take good findings by the legislature, supported by factual material to reverse that decision. We offer you two suggestions if you wish to amend HB 55. One alternative is to reduce the amount of marijuana which one can possess legally for one's personal use from four ounces to one ounce. Since the THC content of commonly obtainable marijuana has been rapidly increasing, four ounces is now a substantial amount of marijuana. Another alternative is to leave the four ounce amount as is, but to "recriminalize" certain conduct and classify it as a B misdemeanor as opposed to its

classification as a violation under present law. (See AS 11.71.070, misconduct involving a controlled substance in the seventh degree.)

Should you wish to implement either of these suggestions, I will be more than happy to assist your staff.

Very truly yours,

GRACE BERG SCHAIBLE
ATTORNEY GENERAL

By: 

Larry R. Weeks
Director of
Criminal Prosecution

LRW:jf-91

cc: Art Peterson, Assistant Attorney General
Department of Law

Robert Evans, Legislative Liaison
Office of the Governor

Irwin RAVIN, Petitioner,
v.
STATE of Alaska, Respondent.
No. 2135.

Supreme Court of Alaska.
May 27, 1975.
As Amended May 28, 1975.

Proceeding was instituted on defendant's motion to dismiss charge of violation of statute proscribing possession of marijuana. The District Court, Third Judicial District, Anchorage, Dorothy D. Tyner, J., denied motion to dismiss and the superior court affirmed and petition for review from the superior court's affirmance was granted. The Supreme Court, Rabinowitz, C. J., held that need for control of drivers under influence of marijuana and existing doubts as to safety of marijuana demonstrate a sufficient justification for statutory proscription of possession of marijuana, and thus an individual's right to possess or ingest marijuana while driving is subject to statute proscribing possession of marijuana; and that no adequate justification exists for State's intrusion into citizen's right of privacy by its prohibition of possession of marijuana by an adult for personal consumption in home, and thus possession of marijuana by adults at home for personal use is constitutionally protected.

Remanded for further proceedings.

Boochever and Connor, JJ., filed specially concurring opinions.

1. Criminal Law ⇨1030(2)

Issue of cruel and unusual punishment in application of statute proscribing possession of marijuana to possession of marijuana for personal use was not considered by Supreme Court, since issue was not raised below or in petition for review to Supreme Court. Rules of Appellate Procedure, rule 24(c); AS 17.12.010, 17.12.150.

2. Constitutional Law ⇨82

Once a fundamental right under State Constitution has been shown to be involved and it has been further shown that this constitutionally protected right has been impaired by governmental action, government must come forward and meet its substantial burden of establishing that abridgment in question was justified by a compelling governmental interest.

3. Constitutional Law ⇨82

When governmental action interferes with an individual's freedom in an area which is not characterized as fundamental, a less stringent test is ordinarily applied and, in such cases, court's task is to determine whether legislative enactment has a reasonable relationship to a legitimate government purpose, and under this "rational basis" test state need only demonstrate existence of facts which can serve as a rational basis for belief that measure would properly serve public interest.

4. Constitutional Law ⇨82

If governmental restrictions interfere with individual's right to privacy, court will require that relationship between means and ends be not merely reasonable but close and substantial.

5. Constitutional Law ⇨82

Federal right to privacy arises only in connection with other fundamental rights, such as the grouping of rights which involve the home, and even in connection with penumbra of home-related rights, right of privacy in sense of immunity from prosecution is absolute only when private activity will not endanger or harm the general public. Const. art. 1, § 22; U.S.C.A. Const. Amendments. 1, 3-5, 14.

6. Constitutional Law ⇨82

Drugs and Narcotics ⇨41

Right to privacy amendment to Alaska Constitution cannot be read so as to make the possession or ingestion of marijuana itself a fundamental right. Const. art. 1, § 22.

7. Constitutional Law
Privacy amendment was intended protection to the home.

8. Constitutional Law
Privacy in the home is a fundamental right. Const. art. 1, § 22; Amend. 4.

9. Constitutional Law
Right of privacy is a fundamental right which yields when it interferes with the health, safety or morals of the community. Const. art. 1, § 22; Amend. 4.

10. Constitutional Law
No one has a right to privacy in things in the private home which will affect the health, safety or morals of the community. Const. art. 1, § 22; Amend. 4.

11. Constitutional Law
Right of privacy is a fundamental right that possession of marijuana in the home is only for purely private use. Const. art. 1, § 22; Amend. 4.

12. Constitutional Law
In determining whether a statute proscribing possession of marijuana is not a function of the police power, the nature of the evidence in the case is material.

13. Constitutional Law
State cannot invade the right of privacy in the home when the public interest in the affairs of the state is not affected.

14. Constitutional Law
The right of privacy is not absolute and yields when it interferes with the health, safety or morals of the community.

15. Constitutional Law
Authority of the state to regulate the activities of its citizens is not absolute.

8. Constitutional Law ⇨82
Privacy amendment to Alaska Constitution was intended to give recognition and protection to the home. Const. art. 1, § 22.
9. Constitutional Law ⇨82
Privacy in the home is a fundamental right. Const. art. 1, § 22; U.S.C.A.Const. Amend. 4.
10. Constitutional Law ⇨82
Right of privacy in the home must yield when it interferes in a serious manner with the health, safety, rights and privileges of others or with the public welfare. Const. art. 1, § 22; U.S.C.A.Const. Amend. 4.
11. Constitutional Law ⇨82
No one has an absolute right to intrusions in the privacy of his own home which will affect himself or others adversely. Const. art. 1, § 22; U.S.C.A.Const. Amend. 4.
12. Constitutional Law ⇨82
Right of privacy in home is limited in that possession of substances is guaranteed only for purely private, noncommercial use in home. Const. art. 1, § 22; U.S.C.A.Const. Amend. 4.
13. Constitutional Law ⇨70.1(10)
In determining validity of legislative proscription of possession of marijuana, it is not function of court to reassess scientific evidence in the manner of a legislature.
14. Constitutional Law ⇨82
State cannot impose its own notions of morality, propriety, or fashion on individuals when the public has no legitimate interest in the affairs of those individuals.
15. Constitutional Law ⇨82
The right of an individual to do as he pleases is not absolute and it can be made to yield when it begins to infringe on the rights and welfare of others.
16. Constitutional Law ⇨81
Authority of state to control activities of its citizens is not limited to activities which have a present and immediate impact on public health or welfare.
17. Constitutional Law ⇨20
State is under no obligation to allow otherwise "private" activity which will result in numbers of people becoming public charges or otherwise burdening the public welfare.
18. Health and Environment ⇨20
Statutes designed to protect the public health will receive a liberal construction.
19. Health and Environment ⇨20
There is a presumption in favor of public health measures.
20. Health and Environment ⇨20
When there is substantial doubt as to safety of a given substance or situation of public health, controls intended to obviate the danger will usually be upheld.
21. Automobiles ⇨332
Need for control of drivers under influence of marijuana and existing doubts as to safety of marijuana demonstrate a sufficient justification for statutory proscription of possession of marijuana; and thus an individual's right to possess or ingest marijuana while driving is subject to statute proscribing possession of marijuana. AS 05.25.060, 17.12.010, 17.12.150, 26.35.030; Const. art. 1, § 22; U.S.C.A.Const. Amends. 1, 14.
22. Drugs and Narcotics ⇨43
No adequate justification exists for State's intrusion into citizen's right of privacy by its prohibition of possession of marijuana by an adult for personal consumption in home, and thus possession of marijuana by adults at home for personal use is constitutionally protected. AS 17.12.010, 17.12.150; Const. art. 1, § 22; U.S.C.A.Const. Amends. 1, 4, 14.
23. Constitutional Law ⇨82
Privacy of individual's home cannot be breached absent a persuasive showing of a close and substantial relationship of the intrusion to a legitimate governmental interest.

23. Drugs and Narcotics ⇨62, 68

Neither federal nor Alaska Constitution affords protection for the buying or selling of marijuana, nor absolute protection for its use or possession in public. AS 17.12.010, 17.12.150; Const. art. 1, § 22; U.S.C.A.Const. Amends. 1, 4, 14.

24. Drugs and Narcotics ⇨66

Possession at home of amounts of marijuana indicative of intent to sell rather than possession for personal use is unprotected. AS 17.12.010, 17.12.150; Const. art. 1, § 22; U.S.C.A.Const. Amends. 1, 4, 14.

25. Constitutional Law ⇨250.1(2)**Drugs and Narcotics** ⇨43

Statute proscribing possession of marijuana is not violative of equal protection on ground that other commonly used recreational drugs, such as alcohol and tobacco, are not proscribed, even though they may inflict more damage on user than does marijuana. AS 17.12.010, 17.12.150; Const. art. 1, § 22; U.S.C.A.Const. Amend. 1, 14.

26. Health and Environment ⇨20

It is not irrational for legislature to regulate those public health areas where it can do so, when other areas exist where controls are less feasible.

27. Drugs and Narcotics ⇨43

Fact that marijuana may be the least harmful of drugs covered by statute proscribing possession is not alone sufficient to make classification of marijuana with other drugs covered irrational. AS 17.10.010 et seq., 17.12.010, 17.12.150(3); U.S.C.A.Const. Amends. 1, 14.

28. Constitutional Law ⇨70.3(12)

Wisdom of statute proscribing possession of marijuana was for legislature, rather than judiciary. AS 17.10.010 et seq., 17.12.010, 17.12.150(3).

1. AS 17.12.010 provides:

Except as otherwise provided in this chapter, it is unlawful for a person to manufacture, compound, counterfeit, possess, have under his control, sell, prescribe, administer, dispense, give, barter, supply or distribute

R. Collin Middleton and Robert H. Wagstaff, Anchorage, for petitioner.

Stephen G. Dunning, Asst. Dist. Atty., Joseph D. Balfe, Dist. Atty., Anchorage, Norman C. Gorsuch, Atty. Gen., Juneau, for respondent.

OPINION

Before RABINOWITZ, C. J., and CONNOR, ERWIN, BOOCHEVER and FITZGERALD, JJ.

RABINOWITZ, Chief Justice.

The constitutionality of Alaska's statute prohibiting possession of marijuana is put in issue in this case. Petitioner Ravin was arrested on December 11, 1972 and charged with violating AS 17.12.010.¹ Before trial Ravin attacked the constitutionality of AS 17.12.010 by a motion to dismiss in which he asserted that the State had violated his right of privacy under both the federal and Alaska constitutions, and further violated the equal protection provisions of the state and federal constitutions. Lengthy hearings on the questions were held before District Court Judge Dorothy D. Tyner, at which testimony from several expert witnesses was received. Ravin's motion to dismiss was denied by Judge Tyner. The superior court then granted review and after affirmance by the superior court, we, in turn, granted Ravin's petition for review from the superior court's affirmance.

[1] Here Ravin raises two basic claims: first, that there is no legitimate state interest in prohibiting possession of marijuana by adults for personal use, in view of the right to privacy; and secondly, that the statutory classification of marijuana as a dangerous drug, while use of alcohol and tobacco is not prohibited, denies

in any manner, a depressant, hallucinogenic or stimulant drug.

AS 17.12.150 defines "depressant, hallucinogenic, or stimulant drug" to include all parts of the plant *Cannabis Sativa L.*

due process and equal protection of law.²

We first address petitioner's contentions that his constitutionally protected right to privacy compels the conclusion that the State of Alaska is prohibited from penalizing the private possession and use of marijuana. Ravin's basic thesis is that there exists under the federal and Alaska constitutions a fundamental right to privacy, the scope of which is sufficiently broad to encompass and protect the possession of marijuana for personal use. Given this fundamental constitutional right, the State would then have the burden of demonstrating a compelling state interest in prohibiting possession of marijuana. In light of these controlling principles, petitioner argues that the evidence submitted below by both sides demonstrates that marijuana is a relatively innocuous substance, at least as compared with other less-restricted substances, and that nothing even approaching a compelling state interest was proven by the State.

Ravin's arguments necessitate a close examination of the contours of the asserted right to privacy and the scope of this court's review of the legislature's determination to criminalize possession of marijuana.

[2] We have previously stated the tests to be applied when a claim is made that state action encroaches upon an individual's constitutional rights. In *Breese v. Smith*, 501 P.2d 159 (Alaska 1972), we had

² In his briefs before this court, Ravin also attempts to raise the issue of cruel and unusual punishment in the application of AS 17.12.010 to possession of marijuana for personal use. Because this issue was not raised below or in the petition for review to this court, we decline to consider the issue in this proceeding. See Appellate Rule 21(c). Cf. *Moran v. Holman*, 501 P.2d 769, 770 n. 1 (Alaska 1972).

³ 501 P.2d at 171. See *State v. Wylie*, 516 P.2d 112 (Alaska 1973); *State v. Van Dort*, 502 P.2d 453 (Alaska 1972); *Gray v. State*, 525 P.2d 521, 527 (Alaska 1974); *Gilbert v. State*, 526 P.2d 1131, 1133 (Alaska 1974); *State v. Adams*, 522 P.2d 1125 (Alaska 1974).

before us a school hairlength regulation which encroached on what we determined to be the individual's fundamental right to determine his own personal appearance. There we stated:

Once a fundamental right under the constitution of Alaska has been shown to be involved and it has been further shown that this constitutionally protected right has been impaired by governmental action, then the government must come forward and meet its substantial burden of establishing that the abridgement in question was justified by a compelling governmental interest.³

This standard is familiar federal law as well. As stated by the United States Supreme Court:

Where there is a significant encroachment upon personal liberty, the State may prevail only upon showing a subordinating interest which is compelling.⁴

The law must be shown "necessary, and not merely rationally related, to the accomplishment of a permissible state policy."⁵

[3] When, on the other hand, governmental action interferes with an individual's freedom in an area which is not characterized as fundamental, a less stringent test is ordinarily applied. In such cases our task is to determine whether the legislative enactment has a reasonable relationship to a legitimate governmental purpose.⁶ Under this latter test, which is sometimes referred to as the "rational basis" test, the State

⁴ *Bates v. Little Rock*, 361 U.S. 516, 524, 80 S.Ct. 412, 417, 4 L.Ed.2d 480, 486 (1960). See *Roe v. Wade*, 410 U.S. 113, 155, 93 S.Ct. 705, 35 L.Ed.2d 147, 178 (1973).

⁵ *McLaughlin v. Florida*, 379 U.S. 184, 190, 85 S.Ct. 283, 290, 13 L.Ed.2d 222, 231 (1964), quoted in the concurrence of Mr. Justice Goldberg in *Griswold v. Connecticut*, 381 U.S. 479, 497, 85 S.Ct. 1678, 14 L.Ed.2d 510, 523 (1965).

⁶ See *Concerned Citizens v. Kenna Peninsula Borough*, 527 P.2d 447, 452 (Alaska 1974); *Mobil Oil Corp. v. Local Boundary Comm'n*, 518 P.2d 92, 101 (Alaska 1974); *Meyer v. Nebraska*, 262 U.S. 390, 43 S.Ct. 625, 67 L.Ed. 1042 (1923).

need only demonstrate the existence of facts which can serve as a rational basis for belief that the measure would properly serve the public interest.

In our recent opinion in *Lynden Transport, Inc. v. State*, 532 P.2d 700 (Alaska 1975), we recognized the existence of considerable dissatisfaction with the fundamental right-compelling state interest test. There we said:

It has been suggested that there is mounting discontent with the rigid two-tier formulation of the equal protection doctrine, and that the United States Supreme Court is prepared to use the clause more rigorously to invalidate legislation without expansion of "fundamental rights" or "suspect" categories and the concomitant resort to the "strict scrutiny" tests. We are in agreement with the view that the Supreme Court's recent equal protection decisions have shown a tendency towards less speculative, less deferential, more intensified means-to-end inquiry when it is applying the traditional rational basis test and we approve of this development. See Gunther, *Forward: In Search of Evolving Doctrine on a Changing Court: A Model for Newer Equal Protection*, 86 Harv.L.Rev. 1 (1972). See, e. g., *James v. Strange*, 407 U.S. 128, 92 S.Ct. 2027, 32 L.Ed.2d 600 (1972); *Jackson v. Indiana*, 406 U.S. 715, 92 S.Ct. 1845, 32 L.Ed.2d 435 (1972); *Humphrey v. Cady*, 405 U.S. 504, 92 S.Ct. 1048, 31 L.Ed.2d 394 (1972); *Eisenstadt v. Baird*, 405 U.S. 438, 92 S.Ct. 1029, 31 L.Ed.2d 349 (1972); *Reed v. Reed*, 404 U.S. 71, 92 S.Ct. 251, 30 L.Ed.2d 225 (1971).

[4] This court has previously applied a test different from the rigid two-tier formulation to state regulations. In *State v. Wylie*,⁷ we tested durational residency requirements for state employment by both

the compelling state interest test and a test which examined whether the means chosen suitably furthered an appropriate governmental interest.⁸ It is appropriate in this case to resolve Ravin's privacy claims by determining whether there is a proper governmental interest in imposing restrictions on marijuana use and whether the means chosen bear a substantial relationship to the legislative purpose. If governmental restrictions interfere with the individual's right to privacy, we will require that the relationship between means and ends be not merely reasonable but close and substantial.

Thus, our undertaking is two-fold: we must first determine the nature of Ravin's rights, if any, abridged by AS 17.12.01 and, if any rights have been infringed upon, then resolve the further question as to whether the statutory impingement is justified.

As we have mentioned, Ravin's argument that he has a fundamental right to possess marijuana for personal use rests on both federal and state law, and centers on what may broadly be called the right to privacy. This "right" is increasingly the subject of litigation and commentary and is still a developing legal concept.⁹

In Ravin's view, the right to privacy involved here is an autonomous right which gains special significance when its situs is found in a specially protected area, such as the home. Ravin begins his privacy argument by citation of and reliance upon *Griswold v. Connecticut*,¹⁰ in which the Supreme Court of the United States struck down as unconstitutional a state statute effectively barring the dispensation of birth control information to married persons. Writing for five members of the Court, Mr. Justice Douglas noted that rights protected by the Constitution are not limited to those specifically enumerated in the

7. 516 P.2d 142 (Alaska 1973).

8. *Id.* at n. 10.

9. The right to privacy was recently made explicit in Alaska by an amendment to the

state constitution. Alaska Const. Art. I, § 22.

10. 381 U.S. 479, 85 S.Ct. 1678, 14 L.Ed.2d 510 (1965).

Constitution. In order to secure the enumerated rights, certain peripheral rights must be recognized. In other words, the "specific guarantees in the Bill of Rights have penumbras, formed by emanations from those guarantees that help give them life and substance."¹¹ Certain of these penumbral rights create "zones of privacy", for example, First Amendment rights of association, Third and Fourth Amendment rights pertaining to the security of the home, and the Fifth Amendment right against self-incrimination. The Supreme Court of the United States then proceeded to find a right to privacy in marriage which antedates the Bill of Rights and yet lies within the zone of privacy created by several fundamental constitutional guarantees. It was left unclear whether this particular right to privacy exists independently, or comes into being only because of its connection with fundamental enumerated rights.

The next important Supreme Court opinion regarding privacy is *Stanley v. Georgia*,¹² in which a state conviction for possession of obscene matter was overturned as violative of the First and Fourteenth Amendments. The Supreme Court had previously held that obscenity is not protected by the First Amendment.¹³ But in *Stanley* the Court made a distinction between commercial distribution of obscene matter and the private enjoyment of it at home. The Constitution, it said, protects the fundamental right to receive information and ideas, regardless of their worth. Moreover, the Supreme Court said,

... in the context of this case - a prosecution for mere possession of printed or filmed matter in the privacy of a

person's own home—that right takes on an added dimension. For also fundamental is the right to be free, except in very limited circumstances, from unwanted governmental intrusions into one's privacy.¹⁴

The Supreme Court concluded that the First Amendment means a state has no business telling a man, sitting alone in his own home, what books he may read or what films he may watch. The Court took care to limit its holding to mere possession of obscene materials by the individual in his own home. It noted that it did not intend to restrict the power of the state or federal government to make illegal the possession of items such as narcotics, firearms, or stolen goods.

The *Stanley* holding was subsequently refined by a series of cases handed down in 1973. In *Paris Adult Theatre I v. Slaton*,¹⁵ the Supreme Court rejected the claim of a theater owner that his showing of allegedly obscene films was protected by *Stanley* because his films were shown only to consenting adults. The Court explicitly rejected the comparison of a theater to a home and found a legitimate state interest in regulating the use of obscene matter in local commerce and places of public accommodation. It apparently found no fundamental right involved in viewing obscene matter under these conditions, for it noted that the right to privacy guaranteed by the Fourteenth Amendment extends only to fundamental rights. The protection offered by *Stanley*, the Supreme Court stated, was restricted to the home, and it explicitly refused to say that all activities occurring between consenting adults were beyond the reach of the government.¹⁶

11. 381 U.S. at 481, 85 S.Ct. at 1681, 14 L. Ed.2d at 514.

12. 393 U.S. 557, 89 S.Ct. 1243, 22 L.Ed.2d 542 (1969).

13. See *Roth v. U. S.*, 351 U.S. 476, 77 S.Ct. 1301, 1 L.Ed.2d 1198 (1957).

14. 393 U.S. at 564, 89 S.Ct. at 1247, 22 L. Ed.2d at 519.

15. 413 U.S. 49, 93 S.Ct. 2628, 37 L.Ed.2d 416 (1973). See also *United States v. Orito*, 413 U.S. 139, 93 S.Ct. 2674, 37 L.Ed.2d 513 (1973); *United States v. 12 200-Ft. Reels*, 413 U.S. 123, 93 S.Ct. 2605, 37 L.Ed.2d 500 (1973).

16. In a companion case, *United States v. Orito*, 413 U.S. 139 93 S.Ct. 2674, 37 L.Ed. 2d 513 (1973), the Supreme Court observed

[5] These Supreme Court cases indicate to us that the federal right to privacy arises only in connection with other fundamental rights, such as the grouping of rights which involve the home. And even in connection with the penumbra of home-related rights, the right of privacy in the sense of immunity from prosecution is absolute only when the private activity will not endanger or harm the general public.

The view is confirmed by the Supreme Court's abortion decision, *Roe v. Wade*.¹⁷ There appellant claimed that her right to decide for herself concerning abortion fell within the ambit of a right to privacy flowing from the federal Bill of Rights. The Court's decision in her favor makes clear that only personal rights which can be deemed "fundamental" or "implicit in the concept of ordered liberty" are protected by the right to privacy. The Supreme Court found this right "broad enough to encompass a woman's decision whether or not to terminate her pregnancy," but it rejected the idea that a woman's right to decide is absolute. At some point, the state's interest in safeguarding health, maintaining medical standards, and protecting potential life becomes sufficiently compelling to sustain regulations. One does not, the Supreme Court said, have an unlimited right to do with one's body as one pleases.

The right to privacy which the Court found in *Roe* is closely akin to that in *Griswold*; in both cases the zone of privacy involves the area of the family and procreation,¹⁸ more particularly, a right

that the *Stanley* right to possess obscene matter in the home is limited to the home and does not create a right to transport, receive, or distribute the matter. The Supreme Court further said that it is not true that a zone of constitutionally protected privacy follows such materials when they are moved outside the home. See *United States v. 12 200-Ft. Reels*, 413 U.S. 123, 93 S.Ct. 2665, 37 L.Ed. 2d 500 (1973).

17. 410 U.S. 113, 93 S.Ct. 705, 37 L.Ed.2d 147 (1973).

18. *Cf. Eisenstadt v. Baird*, 405 U.S. 438, 453, 92 S.Ct. 1029, 1038, 31 L.Ed.2d 349 (1972) where the Supreme Court said in part:

of personal autonomy in relation to choices affecting an individual's personal life.

In Alaska this court has dealt with the concept of privacy on only a few occasions. One of the most significant decisions in this area is *Breese v. Smith*,¹⁹ where we considered the applicability of the guarantee of "life, liberty, the pursuit of happiness" found in the Alaska Constitution,²⁰ to a school hairlength regulation. Noting that hairstyles are a highly personal matter in which the individual is traditionally autonomous, we concluded that governmental control of personal appearance would be antithetical to the concept of personal liberty under Alaska's constitution. Since the student would be forced to choose between controlling his own personal appearance and asserting his right to an education if the regulations were upheld, we concluded that the constitutional language quoted above embodied an affirmative grant of liberty to public school students to choose their own hairstyles, for "at the core of [the concept of liberty] is the notion of total personal immunity from government control: the right 'to be let alone.'"²¹ That right is not absolute, however; we also noted that this "liberty" must yield where it "intrude[s] upon the freedom of others."²²

Subsequent to our decision in *Breese*, a right to privacy amendment was added to the Alaska Constitution. Article I, section 22 reads:

The right of the people to privacy is recognized and shall not be infringed. The

If the right of privacy means anything, it is the right of the *individual*, married or single, to be free from unwarranted governmental intrusion into matters so fundamentally affecting a person as the decision whether to bear or beget a child.

19. 501 P.2d 159 (Alaska 1972).

20. Alaska Const. Art. I, § 1.

21. 501 P.2d at 168.

22. 501 P.2d at 170, quoting *Bishop v. Colaw*, 450 F.2d 1069, 1077 (9th Cir. 1971).

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legislature shall implement this section. The effect of this amendment is to place privacy among the specifically enumerated rights in Alaska's constitution. But this fact alone does not, in and of itself, yield answers concerning what scope should be accorded to this right of privacy.²³ We have suggested that the right to privacy may afford less than absolute protection to "the ingestion of food, beverages or other substances".²⁴ For any such protection must be limited by the legitimate needs of the State to protect the health and welfare of its citizens.²⁵

Although a number of other jurisdictions have considered the privacy issue as it applies to marijuana prosecutions, they provide little help in defining the scope of article I, section 22 of Alaska's constitution. In Hawaii, whose constitution also contains an express guarantee of the right to privacy,²⁶ the supreme court has faced a similar issue. In *State v. Kantner*,²⁷ the Supreme Court of Hawaii upheld a conviction for possession of marijuana by a 3-2 vote, with one member of the majority occurring only because he thought the constitutional issue had not been properly raised. A majority rejected the claim that application of the statute violated guarantees of equal protection and due process, and two members of the court rejected the

claim of violation of "fundamental liberty" based on *Griswold*. In dissent, Justice Levinson emphasized the guarantees of privacy and personal autonomy which he found in both the Hawaii Constitution and the due process clause of the Fourteenth Amendment to the United States Constitution. He found that the right to privacy "guarantees to the individual the full measure of control over his own personality consistent with the security of himself and others."²⁸ The experiences generated by use of marijuana are mental in nature, he wrote, and thus among the most personal and private experiences possible. So long as conduct does not produce detrimental results, the right of privacy protects the individual's conduct designed to affect these inner areas of the personality. The state failed to show, he found, any harm to the user or others from the private, personal use of marijuana, and so the statute infringed on the right to personal autonomy.

In a Michigan case the same year, a conviction for possession of marijuana was overturned by a unanimous court, though for a variety of reasons. One of the justices in *People v. Sinclair*,²⁹ Justice T. G. Kavanagh, rested his opinion squarely on the basic right of the individual to be free from government intrusions. He found the marijuana possession statute to be "an

23. For a discussion of the origins and scope of a similar constitutional guarantee of privacy in the Hawaii Constitution, Art. I, § 5, see *State v. Kantner*, 53 Haw. 327, 493 P.2d 304 (1972), particularly n. 4 in the dissent of Justice Levinson at p. 314. This court has limited the area of searches and seizures, attempted to define the right of privacy. See, e.g., *Erskson v. State*, 507 P.2d 508 (Alaska 1973); *Mattern v. State*, 500 P.2d 228 (Alaska 1972); *Davis v. State*, 499 P.2d 1025 (Alaska 1972); *Ellison v. State*, 383 P.2d 716 (Alaska 1963); *Rubey v. City of Fairbanks*, 456 P.2d 470 (Alaska 1969); *Slezniuk v. State*, 451 P.2d 252 (Alaska 1969).

24. *Gray v. State*, 525 P.2d 524, 528 (Alaska 1974). In *Gray* we said:

There is no available recorded history of this amendment, but clearly it shields the ingestion of food, beverages or other substances. But the right of privacy is not

absolute. Where a compelling state interest is shown, the right may be held to be subordinate to express constitutional powers such as the authorization of the legislature to promote and protect public health and provide for the general welfare.

25. *Id.* If the State were required, for instance, to carry the extremely heavy burden of showing a compelling state interest before it could regulate the purity of foodstuffs and medicines, the result would be a practical inability to protect the public from health threats which consumers could neither know about nor protect themselves against.

26. Hawaii Const. Art. I, § 5.

27. 53 Haw. 327, 493 P.2d 304 (1972).

28. 493 P.2d at 315.

29. 387 Mich. 91, 194 N.W.2d 578 (1972).

impermissible intrusion on the fundamental rights to liberty and the pursuit of happiness, and is an unwarranted interference with the right to possess and use private property."³⁰ He noted the basic freedom of the individual to be free to do as he pleases so long as his actions do not interfere with the rights of his neighbor or of society. ". . . 'Big Brother' cannot, in the name of *Public* health, dictate to anyone what he can eat or drink or smoke in the *privacy* of his own home."³¹

Generally, however, privacy as a constitutional defense in marijuana cases has not met with much favor. It was rejected, for instance, by the Massachusetts Supreme Judicial Court in *Commonwealth v. Leis*,³² where the court held that there was no constitutional right to smoke marijuana, that smoking marijuana was not fundamental to the American scheme of justice or necessary to a regime of ordered liberty, and that smoking marijuana was not locatable in any "zone of privacy". Furthermore, the court said, there is no constitutional right to become intoxicated.³³

[6] Assuming this court were to continue to utilize the fundamental right-compelling state interest test in resolving privacy issues under article I, section 22 of Alaska's constitution, we would conclude that there is not a fundamental constitutional right to possess or ingest marijuana in Alaska. For in our view, the right to privacy amendment to the Alaska Constitution cannot be read so as to make the possession or ingestion of marijuana itself a fundamental right. Nor can we conclude that such a fundamental right is shown by virtue of the analysis we employed in *Breece*. In that case, the student's tradi-

tional liberty pertaining to autonomy in personal appearance was threatened in such a way that his constitutionally guaranteed right to an education was jeopardized. Hairstyle, as emphasized in *Breece*, is a highly personal matter involving the individual and his body. In this sense this aspect of liberty-privacy is akin to the significantly personal areas at stake in *Griswold* and *Eisenstadt v. Baird*. Few would believe they have been deprived of something of critical importance if deprived of marijuana, though they would if stripped of control over their personal appearance. And, as mentioned previously, a discrete federal right of privacy separate from the penumbras of specifically enumerated constitutional rights has not as yet been articulated by the Supreme Court of the United States. Therefore, if we were employing our former test, we would hold that there is no fundamental right, either under the Alaska or federal constitutions, either to possess or ingest marijuana.

The foregoing does not complete our analysis of the right to privacy issues. For in *Gray* we stated that the right of privacy amendment of the Alaska Constitution "clearly it shields the ingestion of food, beverages or other substances", but that this right may be held to be subordinate to public health and welfare measures. Thus, Ravin's right to privacy contentions are not susceptible to disposition solely in terms of answering the question whether there is a general fundamental constitutional right to possess or smoke marijuana. This leads us to a more detailed examination of the right to privacy and the relevancy of where the right is exercised. At one end of the scale of the scope of the right to privacy is possession or ingestion:

30. 194 N.W.2d at 896.

31. *Id.*

32. 243 N.E.2d 898 (Mass.1969).

33. The privacy argument has been rejected in several other cases. *Miller v. State*, 458 S.W.2d 680 (Tex.Crim.App.1970); *In re Klor*, 64 Cal.2d 816, 51 Cal.Rptr. 903, 415 P.2d 791 (1966); *People v. Aguirre*, 257 Cal.

App.2d 597, 65 Cal.Rptr. 171 (1968); *United States v. Drorar*, 416 F.2d 914 (5th Cir. 1969), vacated on other grounds, 402 U.S. 939, 91 S.Ct. 1628, 29 L.Ed.2d 107 (1971); *Borris v. State*, 229 So.2d 244 (Fla.1969); *Raines v. State*, 225 So.2d 330 (Fla.1969). See *Scott v. United States*, 129 U.S.App.D.C. 296, 395 F.2d 619 (1968).

in the individual's home. If there is any area of human activity to which a right to privacy pertains more than any other, it is the home. The importance of the home has been amply demonstrated in constitutional law. Among the enumerated rights in the federal Bill of Rights are the guarantee against quartering of troops in a private house in peacetime (Third Amendment) and the right to be "secure in their . . . houses . . . against unreasonable searches and seizures . . ." (Fourth Amendment). The First Amendment has been held to protect the right to privacy and freedom of association in the home.³⁴ The Fifth Amendment has been described as providing protection against all governmental invasions "of the sanctity of a man's home and the privacies of life."³⁵ The protection of the right to receive birth control information in *Griswold* was predicated on the sanctity of the marriage relationship and the harm to this fundamental area of privacy if police were allowed to "search the sacred precincts of marital bedrooms."³⁶ And in *Stanley v. Georgia*,³⁷ the Court emphasized the home as the situs of protected "private activities". The right to receive information and ideas was found in *Stanley* to take on an added dimension precisely because it was a prosecution for possession in the home:

"For also fundamental is the right to be free, except in very limited circumstances, from unwanted governmental intrusions into one's privacy."³⁸ In a later case, the Supreme Court noted that *Stanley* was not based on the notion that the obscene matter was itself protected by a constitutional penumbra of privacy, but rather was a "reaffirmation that 'a man's home is his castle.'"³⁹ At the same time the Court noted, "the Constitution extends special safeguards to the privacy of the home, just as it protects other special privacy rights such as those of marriage, procreation, motherhood, child rearing, and education."⁴⁰ And as the Supreme Court pointed out, there exists a "myriad" of activities which may be lawfully conducted within the privacy and confines of the home, but may be prohibited in public.⁴¹

[7] In Alaska we have also recognized the distinctive nature of the home as a place where the individual's privacy receives special protection. This court has consistently recognized that the home is constitutionally protected from unreasonable searches and seizures, reasoning that the home itself retains a protected status under the Fourth Amendment and Alaska's constitution distinct from that of the occupant's person.⁴² The privacy amendment to the Alaska Constitution was intended to give recognition and protection to the

34. *Moreno v. United States Dept't of Agriculture*, 345 F.Supp. 310, 314 (D.D.C.1972), *aff'd*, 413 U.S. 528, 93 S.Ct. 2821, 37 L.Ed. 2d 782 (1973).

35. *Boyd v. U. S.*, 116 U.S. 616, 630, 6 S.Ct. 521, 29 L.Ed. 746, 751 (1886).

36. 381 U.S. at 486, 85 S.Ct. at 1682, 14 L. Ed.2d at 516.

37. 394 U.S. 557, 89 S.Ct. 1243, 22 L.Ed.2d 342 (1969).

38. 391 U.S. at 564, 89 S.Ct. at 1247, 22 L. Ed.2d at 519.

39. *Paris Adult Theatre I v. Slaton*, 413 U.S. 49, 93 S.Ct. 2628, 2640, 37 L.Ed.2d 446, 462 (1973).

40. *U. S. v. Orito*, 413 U.S. 139, 142, 93 S.Ct. 2674, 2677, 37 L.Ed.2d 513, 517 (1973). See

U. S. v. 12 200-Ft. Reels, 413 U.S. 123, 93 S.Ct. 2665, 37 L.Ed.2d 700 (1973).

41. *U. S. v. Orito*, 413 U.S. 139, 142-143, 93 S.Ct. 2674, 37 L.Ed.2d 513, 518 (1973).

42. *State v. Spietz*, 531 P.2d 521 (Alaska 1975); *Ferguson v. State*, 488 P.2d 1032 (Alaska 1971). See cases cited *supra* at n. 21. The home receives special attention in other areas of Alaska's laws, e. g., the homestead exemption in relation to execution sales, AS 09.35.090; the justifiable homicide defense pertaining to the prevention of a felony in the home, AS 11.15.100; and the distinction between burglary in a dwelling house and burglary in other structures, AS 11.20.080-100.

home. Such a reading is consonant with the character of life in Alaska. Our territory and now state has traditionally been the home of people who prize their individuality and who have chosen to settle or to continue living here in order to achieve a measure of control over their own lifestyles which is now virtually unattainable in many of our sister states.

[8-11] The home, then, carries with it associations and meanings which make it particularly important as the situs of privacy. Privacy in the home is a fundamental right, under both the federal and Alaska constitutions. We do not mean by this that a person may do anything at anytime as long as the activity takes place within a person's home. There are two important limitations on this facet of the right to privacy. First, we agree with the Supreme Court of the United States, which has strictly limited the *Stanley* guarantee to possession for purely private, noncommercial use in the home. And secondly, we think this right must yield when it interferes in a serious manner with the health, safety, rights and privileges of others or with the public welfare. No one has an absolute right to do things in the privacy of his own home which will affect himself or others adversely. Indeed, one aspect of a private matter is that it is private, that is, that it does not adversely affect persons beyond the actor, and hence is none of

their business. When a matter does affect the public, directly or indirectly, it loses its wholly private character, and can be made to yield when an appropriate public need is demonstrated.

Thus, we conclude that citizens of the State of Alaska have a basic right to privacy in their homes under Alaska's constitution. This right to privacy would encompass the possession and ingestion of substances such as marijuana in a purely personal, non-commercial context in the home unless the state can meet its substantial burden and show that proscription of possession of marijuana in the home is supportable by achievement of a legitimate state interest.

This leads us to the second facet of our inquiry, namely, whether the State has demonstrated sufficient justification for the prohibition of possession of marijuana in general in the interest of public welfare; and further, whether the State has met the greater burden of showing a close and substantial relationship between the public welfare and control of ingestion or possession of marijuana in the home for personal use.

[12] The evidence which was presented at the hearing before the district court consisted primarily of several expert witnesses familiar with various medical and social aspects of marijuana use.⁴³ Numer-

43. Among the works we have examined in addition to the testimony below are the following: *Marihuana: A Signal of Misunderstanding*, the First Report of the National Commission on Marihuana and Drug Abuse (March 1972); *Drug Use in America: Problem in Perspective*, the Second Report of the National Commission on Marihuana and Drug Abuse (March 1973); *Drug Use in Anchorage, Alaska*, 223 *J.Am.Med. Ass'n* 657 (1971); G. Nahas, *Marihuana: Deceptive Weed* (1973); Nahas *et al.* *Inhibition of Cellular Mediated Immunity in Marihuana Smokers*, 183 *Science* 419 (1974); L. Grinspoon, *Marihuana Reconsidered* (1971); Hearings before the U. S. Senate Subcommittee on Internal Security, May 1974; Nahas & Greenwood, *The First Report of the National Commission on Marihuana* (1972); *Signal of*

Misunderstanding or Exercise in Ambiguity, draft of article to be published in *Bulletin of N. Y. Academy of Medicine*; *Marihuana and Health: Fourth Annual Report to the U. S. Congress from the Secretary of Health, Education, and Welfare* (1974); Silverstein & Tassin, *Normal Skin Test Responses in Chronic Marihuana Users*, 186 *Science* 740 (1974); *Marihuana: The Grass May No Longer Be Greener*, 185 *Science* 683 (1974); *Marihuana (II): Does it Damage the Brain?*, 185 *Science* 775 (1974); *Depression of Plasma Testosterone Levels After Chronic Intensive Marihuana Use*, 290 *N.Engl.J.Med.* 87 (1974); *Plasma Testosterone Levels Before, During and After Chronic Marihuana Smoking*, 291 *N.Engl.J.Med.* 1051 (1974); *Marihuana Survey-State of Oregon*, Drug Abuse Council (1974).

his written reports and books were also introduced into evidence.⁴⁴

Marijuana is the common term for dried leaves or stalk of the plant *Cannabis sativa*. The primary psychoactive ingredient in the plant is delta-9-tetrahydrocannabinol (THC). Most marijuana available in the United States has a THC content of less than one percent. Other cannabis derivatives with a higher THC content, such as hashish, are available in the United States though much less common than is marijuana.

According to figures published by the National Commission on Marihuana and Drug Abuse⁴⁵ in 1973, an estimated 26 million Americans have used marijuana at least once. The incidence generally cuts across social and economic classes, though use is greatest among young persons (55%

of 18-21 year-olds have used it). Only about 2% of the adults who have used it were classified by the National Commission as "heavy users" (more than once daily). The experience in Alaska seems to be similar. A report published in the Journal of the American Medical Association in 1971 indicated that 24% of Anchorage school children in grades six through twelve had used marijuana, as had 46% in grades eleven and twelve.⁴⁶

Scientific testimony on the physiological and psychological effects of marijuana on humans generally stresses the variability of effects upon different individuals and on any one individual at different times. The setting and psychological state of the user can affect his responses. Responses also vary with the amount of marijuana one has used in the past. A new user, for instance, often feels no effects at all.

44. It is not the function of this court to reassess the scientific evidence in the manner of a legislature. See *U. S. v. Thorne*, 325 A. 2d 764 (D.C.App.1974), where an attack on the constitutionality of the District of Columbia marijuana statutes was made. There the court said:

In our opinion the court below misconceived its function in its approach to the constitutionality of the statutory proscription of the possession and use of marijuana. In deciding that this drug has virtually no harmful effects upon the human system, the court had occasion to consider the testimony of four expert witnesses and a voluminous mass of documentary studies. The court weighed this evidence and resolved the matter to its own satisfaction. If this were a hearing or a trial turning upon the determination of facts upon which there was conflicting testimony, such procedure was, of course, correct.

But a holding that a legislative enactment is invalid cannot rest upon a judicial determination of a debatable medical issue. Any party assailing the constitutionality of a statute has the heavy burden of demonstrating that it has no rational basis.

It is apparent from the record in this case that the question decided by the court below after the hearing on the proffered motions was "at least debatable." Hence, under the tests set forth in *Carolee Products*, the court should have deferred to congressional judgment.

Similarly the Supreme Judicial Court of Massachusetts in *Commonwealth v. Leis*, 243 N.E.2d 898, 901-02 (1969), said:

We know of nothing that compels the Legislature to thoroughly investigate the available scientific and medical evidence when enacting a law. The test of whether an act of the Legislature is rational and reasonable is not whether the records of the Legislature contain a sufficient basis of fact to sustain that act. The Legislature is presumed to have acted rationally and reasonably. See *Commonwealth v. Finnigan*, 326 Mass. 378, 379, 96 N.E.2d 715; *Coffee-Rich, Inc. v. Commissioner of Pub. Health*, 318 Mass. 414, 422, 204 N.E.2d 231. "Unless the act of the Legislature cannot be supported upon any rational basis of fact that reasonably can be conceived to sustain it, the court has no power to strike it down as violative of the Constitution." *Sperry & Hutchinson Co. v. Director of the Div. on the Necessaries of Life of Commonwealth*, 307 Mass. 408, 418, 30 N.E.2d 269, 274, 131 A.L.R. 1251. See *United States v. Carolee Prod. Co.*, 301 U.S. 144, 151, 58 S.Ct. 778, 82 L.Ed. 1234.

Justice Kirk, in his concurring opinion in *Leis*, also explains the question of legislative judgment and the range of judicial cognizance.

45. *Drug Use in America: Problem in Perspective*, the Second Report of the National Commission on Marihuana and Drug Abuse (March 1973) at 64.

46. *Drug Use in Anchorage, Alaska*, 223 J. Am.Med.Ass'n 657 (1971).

The short-term physiological effects are relatively undisputed. An immediate slight increase in the pulse, decrease in salivation, and a slight reddening of the eyes are usually noted. There is also impairment of psychomotor control. These effects generally end within two to three hours of the end of smoking.

Long-term physiological effects raise more controversy among the experts. The National Commission on Marihuana and Drug Abuse reported that among users "no significant physical, biochemical, or mental abnormalities could be attributed solely to their marijuana smoking."⁴⁷ Certain researchers have pointed to possible deleterious effects on the body's immune defenses,⁴⁸ on the chromosomal structures of users,⁴⁹ and on testosterone levels in the body.⁵⁰ The methodology of certain of these studies has been extensively criticized by other qualified medical scientists, however. These studies cannot be ignored. It should be noted that most of the damage suggested by these studies comes in the context of intensive use of concentrated forms of THC. It appears that the use of marijuana, as it is presently used in the United States today, does not constitute a public health problem of any significant dimensions. It is, for instance, far more innocuous in terms of physiological and social damage than alcohol or tobacco. But the studies suggesting dangers in intensive

cannabis use do raise valid doubts which cannot be dismissed or discounted.

The immediate psychological effects of marijuana are typically a mild euphoria and a relaxed feeling of well-being. The user may feel a heightened sensitivity to taste and to visual and aural sensations, and his perception of time intervals may be distorted. A desire to become high can lead to a greater high; fear of becoming high or general nervousness can cause the user to fail to experience any high at all. In rare cases, excessive nervousness or fear of the drug can even precipitate a panic reaction. Occasionally a user will experience a negative reaction such as anxiety or depression, particularly when he takes in more of the substance than needed to achieve the desired high. However, in smoking marijuana, the usual method of taking it in this country, the user can self-titrate, or control the amount taken in, since the effect builds up gradually.

Additional short-term effects are an impairment of immediate-past-memory facility and impairment in performing psychomotor tasks. Experienced users seem less impaired in this regard than naive users.

In extremely rare instances, use of marijuana has been known to precipitate psychotic episodes; however, the consensus of the experts seems to be that the potential for precipitating psychotic episodes exists only for a limited number of prepsychotic

47. *Marihuana: A Signal of Misunderstanding*, First Report of the National Commission on Marihuana and Drug Abuse (March 1972), p. 61.

48. See Nahas, et al. *Inhibition of Cellular Mediated Immunity in Marihuana Smokers*, 183 *Science* 419 (1974). *But cf.* *Normal Skin Test Responses in Chronic Marihuana Users*, 186 *Science* 740 (1974).

49. See Stenchever, *Statement before the Senate Subcommittee on Internal Security*, May 16, 1974. The National Institute on Drug Abuse, in *Marihuana and Health*, Fourth Report to the United States Congress from the Secretary of Health, Education, and Welfare, states in part:

The preclinical findings of greatest interest and potential significance during the past two years have been a series of studies

indicating that delta-9-THC (and possibly other marihuana constituents) have an effect upon certain basic cellular mechanisms which involve the uptake of amino acids and the nucleotides into primary nuclear components such as DNA. Since this may interfere with basic biological processes, the preliminary data raises the possibility that the effects of marihuana, under some circumstances, may be more widespread on the organism than has been previously thought.

Id. at 6.

50. *Depression of Plasma Testosterone Levels After Chronic Intensive Marihuana Use*, 299 *N.Engl.J.Med.* 872 (1974). *But cf.* *Plasma Testosterone Levels Before, During and After Chronic Marihuana Smoking*, 291 *N.Engl.J.Med.* 1051 (1974).

persons who could be pushed into psychosis by any number of drug or nondrug-related influences.

There is considerable debate as to the long-term effects of marijuana on mental functioning. Certain researchers cite evidence of an "amotivational syndrome" among long-term heavy cannabis users. However, the main examples of this effect are users in societies where large segments of the population exhibit such traits as social withdrawal and passivity even without drug use. The National Commission concludes that long-time heavy users do not deviate significantly from their social peers in terms of mental functioning, at least to any extent attributable to marijuana use.⁵¹

The experts generally agree that the early widely-held belief that marijuana use directly causes criminal behavior, and particularly violent, aggressive behavior, has no validity. On the contrary, the National Commission found indications that marijuana inhibits "the expression of aggressive impulses by pacifying the user, interfering with muscle coordination, reducing psychomotor activities and generally producing states of drowsiness, lethargy, timidity and passivity."⁵² Moreover, the Commission and most other authorities agree that there is little validity to the the-

ory that marijuana use leads to use of more potent and dangerous drugs. Although it has been stated that the more heavily a user smokes marijuana, the greater the probability that he has used or will use other drugs, "it has been suggested that such use is related to 'drug use proneness' and involvement in drug subcultures rather than to the characteristics of cannabis, *per se*."⁵³

The most serious risk to the public health discerned by the National Commission is the possibility of an increase in the number of heavy users, who now constitute about 2% (500,000) of those who have used the drug. Within this group certain emotional changes have been observed among "predisposed individuals" as a result of prolonged heavy use. This group seems to carry the highest risk, particularly in view of the risk of retarding social adjustment among adolescents if heavy use should grow.

Most authorities have accepted the theory that marijuana users develop a "reverse tolerance", that is, that a moderate user needs less and less marijuana over time to achieve a high. Recent research indicates that this may be true only up to a point, and that beyond a certain intensity of use a true tolerance begins to develop.⁵⁴ If true, this may be relevant regarding only

⁵¹ Marijuana: A Signal of Misunderstanding, the First Report of the National Commission on Marijuana and Drug Abuse (March 1972), 63. See also Marijuana and Health, Fourth Report to the United States Congress from the Secretary of Health, Education and Welfare (1974), which reads at

While chronic users in the United States have used for appreciably shorter periods of time than users overseas, studies of American chronic users are potentially of great importance in assessing possible implications of marijuana use for the American population. In one large scale study of undergraduate student use comparisons were made between nonusers (including those who had done a limited amount of experimentation), occasional users and chronic users (those who had used three or more times a week for three years or more or for two years if use was almost daily). No

statistical differences in academic performance were found nor was there any evidence of reduced motivation. . . . Another study of moderately using medical students who had used regularly for three or more years and who were matched with non-using medical students for intelligence, found no difference on an extensive battery of neuropsychological tests.

⁵² *Id.* at 70-71.

⁵³ Marijuana and Health, Fourth Report to the United States Congress from the Secretary of Health, Education, and Welfare (1974) at 6.

⁵⁴ "While tolerance to the effects of marijuana has not been generally observed among American users, there is increasingly convincing evidence that tolerance (i. e., larger dosages required to produce the same effects found with lower dosages) does develop under conditions of heavy, regular use. Given

heavy use of concentrated forms of cannabis, since marijuana use is self-limiting due to the forms in which it is taken.

The National Commission rejected the notion that marijuana is physically addicting. It also rejected the notion that marijuana as used in the United States today presents a significant risk of causing psychological dependency in the user. Rather, the experimental or intermittent user develops little or no psychological dependence. Lengthy use on a regular basis does present a risk of such dependence and of subsequent heavier use, and strong psychological dependence is characteristic of heavy users in other countries. This pattern of use is rare in the United States today, however.

While there is no confirmed report of a human ever having died from an overdose of cannabis, the toxic levels of THC have been determined from tests on animals. The lethal dose for marijuana is approximately 40,000 times the dose needed to achieve intoxication. The equivalent ratio of intoxicating to lethal doses for alcohol is 4/10 and for barbiturates is 3/50.

The number of persons arrested for marijuana possession has climbed steeply in recent years. In 1973, over 400,000 marijuana arrests occurred, a 43% rise over the previous year. It should also be noted that 81% of persons arrested for marijuana-related crimes have never been convicted of any crime in the past, and 91% have never been convicted of a drug-related crime.⁵⁵

The justifications offered by the State to uphold AS 17.12.010 are generally that marijuana is a psychoactive drug; that it is not a harmless substance; that heavy

the relatively low doses and infrequent use typical of present patterns of use in the United States it is not surprising that tolerance has not usually been observed.

While the amounts involved were usually large and quite atypical of current use patterns, the probability of a withdrawal syndrome in at least some American heavy users must be considered." *Marihuana and Health*, Fourth Report to the United States Congress

use has concomitant risk; that it is capable of precipitating a psychotic reaction in at least individuals who are predisposed towards such reaction; and that its use adversely affects the user's ability to operate an automobile. The State relies upon a number of medical researchers who have raised questions as to the substance's effect on the body's immune system, on chromosomal structure, and on the functioning of the brain. On the other hand, in almost every instance of reports of potential danger arising from marijuana use, reports can be found reaching contradictory results. It appears that there is no firm evidence that marijuana, as presently used in this country, is generally a danger to the user or to others. But neither is there conclusive evidence to the effect that it is harmless.⁵⁶ The one significant risk in use of marijuana which we do find established to a reasonable degree of certainty is the effect of marijuana intoxication on driving. We shall return to this aspect of the problem later in this opinion.

Possibly implicit in the State's catalogue of possible dangers of marijuana use is the assumption that the State has the authority to protect the individual from his own folly, that is, that the State can control activities which present no harm to anyone except those enjoying them. Although some courts have found the "public interest" to be broad enough to justify protecting the individual against himself,⁵⁷ most have found inherent limitations on the police power of the state. An apposite example is the litigation regarding the constitutionality of laws requiring motorcyclists to wear helmets. Most of the courts addressing the issue, including this one, have resolved it by finding a connection between

from the Secretary of Health, Education, and Welfare (1974) at 10, 75-81.

55. *Marihuana: A Signal of Misunderstanding*, Appendix II, at 622.

56. Petitioner's witnesses, Doctors Fort and Ungerleider, both testified that marijuana was not harmless.

57. *E. g.*, *Raines v. State*, 225 S.W.2d 330 (Fla. 1960).

Cite as, Alaska, 537 P.2d 494

helmet requirement and the safety of other motorists,⁵⁸ but a significant number of courts have explicitly rejected such restrictive measures as beyond the police power of the state because they do not benefit the public.⁵⁹ Typical of the logic in these latter cases is the dissent of Justice Abe in *State v. Lee*,⁶⁰ in which the Hawaii Supreme Court upheld a motorcycle helmet requirement despite finding no causal link between lack of the equipment and the motorcyclist and injury to others. The court reasoned that where a person's conduct is so reckless, and the resulting injury and death are so widespread as to be of concern to the public, then the conduct affects the public interest and is within the scope of the police power. Justice Abe stated, citing a general right to be left alone or liberty to do as you please. There must be a genuine harm to others, he stated, to justify such controls; a state cannot simply decide what is in a person's best interest and compel it.⁶¹

[13, 14] We glean from these cases the general proposition that the authority of the state to exert control over the individual extends only to activities of the individual which affect others or the public at large⁶² as it relates to matters of public health or safety, or to provide for the general welfare. We believe this tenet to be

basic to a free society. The state cannot impose its own notions of morality, propriety, or fashion on individuals when the public has no legitimate interest in the affairs of those individuals. The right of the individual to do as he pleases is not absolute, of course: it can be made to yield when it begins to infringe on the rights and welfare of others.⁶³

[15, 16] Further, the authority of the state to control the activities of its citizens is not limited to activities which have a present and immediate impact on the public health or welfare. It is conceivable, for example, that a drug could so seriously develop in its user a withdrawal or amotivational syndrome, that widespread use of the drug could significantly debilitate the fabric of our society. Faced with a substantial possibility of such a result, the state could take measures to combat the possibility. The state is under no obligation to allow otherwise "private" activity which will result in numbers of people becoming public charges or otherwise burdening the public welfare. But we do not find that such a situation exists today regarding marijuana. It appears that effects of marijuana on the individual are not serious enough to justify widespread concern, at least as compared with the far more dangerous effects of alcohol, barbitu-

E. g., *Kingery v. Chappel*, 504 P.2d 831 (Alaska 1972); *People v. Dielmeyer*, 54 N.Y.S.2d 466, 282 N.Y.S.2d 797 (1967); *State v. Melo*, 103 N.J.Super. 353, 247 A.2d 176 (1968).

E. g., *American Motorcycle Ass'n v. Dams*, 11 Mich.App. 351, 158 N.W.2d 72 (1968); *People v. Fries*, 42 Ill.2d 446, 250 N.E.2d 119 (1969). See *Everhardt v. New Orleans*, 208 So.2d 423 (La.App.1968), *rev'd*, 217 So.2d 400 (1969); *People v. Carmichael*, 73 N.Y.S.2d 581, 279 N.Y.S.2d 272 (1967), *rev'd*, Misc.2d 388, 288 N.Y.S.2d 931 (1968).

51 Haw. 516, 165 P.2d 573 (1970).

Similarly, in *State v. Kantner*, 53 Haw. 37, 193 P.2d 303 (1972), which involved the constitutionality of Hawaii's marijuana statute, Justice Abe noted his belief that the statute went beyond the police power of the state because of the lack of evidence that use of

marijuana harms anyone other than the user. There is, he wrote, under the Hawaii Constitution a fundamental right of liberty to make a fool of oneself so long as one's act does not endanger others.

62. *Gf. Liggett Co. v. Baldridge*, 278 U.S. 105, 111-12, 49 S.Ct. 57, 59, 73 L.Ed. 204, 208 (1928).

The police power may be exerted in the form of state legislation where otherwise the effect may be to invade rights guaranteed by the Fourteenth Amendment only when such legislation bears a real and substantial relation to the public health, safety, morals, or some other phase of the general welfare.

63. See *Roe v. Wade*, 410 U.S. 113, 151, 93 S.Ct. 705, 35 L.Ed.2d 117, 177 (1971); *Gray v. State*, 525 P.2d 524, 528 (Alaska 1974); *Breese v. Smith*, 501 P.2d 159, 170 (Alaska 1973).

rates and amphetamines. Moreover, the current patterns of use in the United States are not such as would warrant concern that in the future consumption patterns are likely to change.⁶⁴

[17-19] Research is continuing extensively. Scientific doubts persist, however, and that fact has significance for our application of the law. It is a long-standing rule of law that statutes designed to protect the public health will receive a liberal construction.⁶⁵ We have seen repeated examples in recent years where scientific doubts as to the safety of various products, drugs, or environmental conditions have been held to justify controls. There is a presumption in favor of public health measures; when there is substantial doubt as to the safety of a given substance or situation for the public health, controls intended to obviate the danger will usually be upheld.

64. We recognize that more potent forms of cannabis than marijuana are commonly used in other countries and are available on a limited scale here. However, studies of use patterns here do not indicate any great likelihood of a significant shift in use here to the more potent substances. If such a shift were to occur, then marijuana use could be characterized as a serious health problem.

65. 3 Sutherland Statutory Construction § 71.02 (4th ed. 1974) and the cases cited in note 42 *supra*.

66. See *Marijuana and Health*, Fourth Report to the United States Congress from the Secretary of Health, Education, and Welfare 105 (1974). This report contains citations to the most recent studies.

67. Evidence that marijuana has a detrimental effect on driving performance, especially as the dose increases, continues to mount. It has been found to increase both braking and starting times, to adversely affect attention and concentration abilities, and to detract from performance on a divided attention task, all of which are presumably involved in driving. A recent Canadian study of driving ability while marijuana-intoxicated examined drivers' performance under both driving course and actual traffic conditions. A significant decline in performance as measured by several criteria was found in most drivers test-

ed. But one way in which use of marijuana most clearly does affect the general public is in regard to its effect on driving. All of which brings us to the opposite (from the home) end of the scale of the right to privacy in the context of ingestion or possession of marijuana, namely, when the individual is operating a motor vehicle. Recent research has produced increasing evidence of significant impairment of the driving ability of persons under the influence of cannabis.⁶⁶ Distortion of time perception, impairment of psychomotor function, and increased selectivity in attentiveness to surroundings apparently can combine to lower driver ability.⁶⁷ In this regard, Ravin points out that marijuana usually produces passivity and inactivity, in contrast to alcohol, which increases aggressiveness and is likely to result in overconfidence in one's driving ability. Although a person under the influence of marijuana may be less likely to attempt to drive than

ed. Based on the accumulated evidence, it seems clear that driving while under the influence of marijuana is ill-advised. *Marijuana and Health*, Fourth Report to the U. S. Congress from the Secretary of Health, Education, and Welfare 10-11 (1974).

Petitioner's own experts do not disagree with the Secretary's conclusions. Dr. Grinspoon testified that ". . . it stands to reason that anybody who is intoxicated or has a psychoactive drug in him should not drive, because there is no question . . . his wherewithall is not with him, and I think that would be the case with marijuana." Dr. Fineglass stated that ". . . moderate or heavy use of marijuana can definitely interfere with some of the local skills that would be necessary for the operation of a motor vehicle, and therefore, in their recommendation did take note of driving while intoxicated as a potential danger to the public safety. Dr. Ungerleider testified that although the immediate effects of marijuana intoxication on the organs and bodily functions are transient and have little or no permanent effect "there is a definite loss of some psychomotor control, temporary impairment of time space perception. . . ." Later in the course of his testimony, Dr. Ungerleider concluded that recent studies had proven that driving under the influence of marijuana presents a serious risk resulting from impaired driving ability.

person under the influence of alcohol, there exists the potential for serious harm to the health and safety of the general public.⁶⁸

[20-24] In view of the foregoing, we believe that at present, the need for control of drivers under the influence of marijuana and the existing doubts as to the safety of marijuana, demonstrate a sufficient justification for the prohibition found in AS 17.12.010 as an exercise of the state's police power for the public welfare. Given the evidence of the effect of marijuana on driving an individual's right to possess or ingest marijuana while driving would be subject to the prohibition provided for in AS 17.12.010. However, given the relative insignificance of marijuana consumption as a health problem in our society at present, we do not believe that the potential harm generated by drivers under the influence of marijuana, standing alone, creates a close and substantial relationship between the public welfare and control of ingestion of marijuana or possession of it in the home for personal use. Thus we conclude that no adequate justification for the state's intrusion into the citizen's right to privacy by its prohibition of possession of marijuana by an adult for personal consumption in the home has been shown. The privacy of the individual's home cannot be breached absent a persuasive showing of a close and substantial relationship of the intrusion to a legitimate governmental interest. Here, mere scientific doubts will not suffice.

68. Current Alaska law enacted since the trial of this case prohibits driving under the influence of an hallucinogenic drug, AS 28.35.030. Alaska law also specifically prohibits operation of a boat while under the influence of marijuana, AS 05.25.040.

There does not now exist a means for detecting the presence of cannabis in the body which is available for practical use by law enforcement agencies. Such means are in use in laboratories, however, and research is progressing toward a device which could be used by police in the way that breathalyzer tests for alcohol are used now.

69. We do not intend to imply that the right of privacy in the home does not apply to

The state must demonstrate a need based on proof that the public health or welfare will in fact suffer if the controls are not applied.

The state has a legitimate concern with avoiding the spread of marijuana use to adolescents who may not be equipped with the maturity to handle the experience prudently, as well as a legitimate concern with the problem of driving under the influence of marijuana. Yet these interests are insufficient to justify intrusions into the rights of adults in the privacy of their own homes.⁶⁹ Further, neither the federal or Alaska constitution affords protection for the buying or selling of marijuana, nor absolute protection for its use or possession in public. Possession at home of amounts of marijuana indicative of intent to sell rather than possession for personal use is likewise unprotected.⁷⁰

In view of our holding that possession of marijuana by adults at home for personal use is constitutionally protected, we wish to make clear that we do not mean to condone the use of marijuana. The experts who testified below, including petitioner's witnesses, were unanimously opposed to the use of any psychoactive drugs. We agree completely. It is the responsibility of every individual to consider carefully the ramifications for himself and for those around him of using such substances. With the freedom which our society offers to each of us to order our lives as we see fit goes the duty to live responsibly, for

children. See *Breese v. Smith*, 501 P.2d 159, 167 (Alaska 1972). We note that distinct government interests with reference to children may justify legislation that could not properly be applied to adults.

70. Statistics indicate that few arrests for simple possession occur in the home except when other crimes are simultaneously being investigated. The trend in general in law enforcement seems to be toward minimal effort against simple users of marijuana, and concentration of efforts against dealers and users of more dangerous substances. Moreover, statistics indicate that most arrests for possession of marijuana in Alaska result in dismissals before trial.

our own sakes and for society's. This result can best be achieved, we believe, without the use of psychoactive substances.

[25,26] We briefly address Ravin's second assertion of error, namely that AS 17.12.010 denies him due process and equal protection of the law. The argument is two-fold. First, Ravin asserts, the prescription denies equal protection because the other commonly used "recreational" drugs, alcohol and tobacco, are not proscribed, though they inflict far more damage on the user than does marijuana. We reject, however, the assumption that the legislature must apply equal controls to equal threats to the public health. Assuming some degree of control of marijuana use is permissible, it does not follow that the political obstacles to placing controls on alcohol and tobacco should render the legislature unable to regulate other substances equally or less harmful.⁷¹ It is not irrational for the legislature to regulate those public health areas where it can do so, when there exists other areas where controls are less feasible.

[27] Ravin also attacks as irrational the classification of marijuana with the other drugs covered by AS 17.12.150(3) ("depressant, stimulant, or hallucinogenic"). He may be correct that marijuana is the least harmful of the drugs covered by AS 17.12.150(3), but that alone is not sufficient to make the classification irrational. In a number of cases the classification of marijuana either as or with narcotic drugs has been struck down as irrational in view

of the relative harmlessness of marijuana.⁷² In other cases, courts have deferred to the legislative finding of facts implicit in the classification.⁷³ However, in every case in which statutes have been struck down, the statutory scheme classified marijuana with, or subject to equal sanctions with, the most dangerous proscribed drugs. In Alaska, however, "hard" drugs are in a completely different category⁷⁴ from marijuana, with substantially greater penalties for misuse. The drugs with which marijuana is grouped in AS 17.12.150(3) are not so different from marijuana that yet another classification must be set up for marijuana alone. We find no merit to Ravin's contention on this point.

[28] One other facet of this petition remains for discussion. Ravin urges us to recognize that whatever harm results from marijuana use is far outweighed by the negative aspects of enforcement. Over 400,000 persons were arrested for marijuana-related crimes in 1973; 81% of them had no previous criminal records. Using these statistics, and asserting that marijuana use does not pose a substantial public health threat, Ravin questions the wisdom of AS 17.12.010. We note that the Alaska Bar Association, American Bar Association, National Conference of Commissioners on Uniform State Laws, National Advisory Commission on Criminal Justice Standards and Goals and the Governing Board of the American Medical Association have recommended decriminalization of possession of marijuana. The National Commission on Marijuana and Drug

71. See *U. S. v. Maiden*, 355 F.Supp. 743 (D. Conn.1973); *U. S. v. Kiffer*, 477 F.2d 349 (2d Cir. 1973). In attacking a complex problem, the state need not choose between attacking every aspect of that problem or not attacking that problem at all. *Dandridge v. Williams*, 397 U.S. 471, 90 S.Ct. 1153, 25 L.Ed.2d 491 (1970); *McDonald v. Board of Election Commissioners*, 394 U.S. 802, 89 S.Ct. 1404, 22 L.Ed.2d 739 (1969).

72. *E. g.*, *People v. McCabe*, 49 Ill.2d 338, 275 N.E.2d 407 (1971); *Attwood v. State*, 509 S.W.2d 342 (Tex.Crim.App.1974); see *People v. Sinclair*, 387 Mich. 91, 194 N.W.2d

878 (1972); *cf.* *State v. Zornes*, 475 P.2d 109 (Wash.1970).

73. *E. g.*, *Bettis v. United States*, 408 F.2d 563 (9th Cir. 1969); *Commonwealth v. Lutz*, 243 N.E.2d 898 (Mass.1969); *Miller v. Texas*, 458 S.W.2d 680 (Tex.Crim.App.1970); *Raines v. State*, 225 So.2d 330 (Fla.1969); *People v. McKenzie*, 169 Colo. 521, 475 P.2d 232 (1969); *People v. Stark*, 157 Colo. 59, 400 P.2d 923 (1965). See *State v. Kantner*, 53 Haw. 327, 493 P.2d 306 (1972).

74. See AS 17.10.010 et seq. (The Uniform Narcotic Drug Act).

House has recommended that private possession for personal use no longer be an offense. A Canadian study has arrived at similar results. And at least one state, Oregon, has already decriminalized possession of small amounts of marijuana.⁷⁵

In opposition, the State argues that under Alaska's constitutional system of separate but equal branches of government the issue is a "political controversy over the state's fundamental policy toward the drug marijuana". Thus, the "issue should be properly determined by the people's elected representatives". We agree that determination of the wisdom of a particular legislative enactment is more properly the subject of investigation and resolution by the legislature rather than the judiciary.

The record does not disclose any facts as to the situs of Ravin's arrest and his alleged possession of marijuana. In view of these circumstances, we hold that the matter must be remanded to the district court for the purpose of developing the facts concerning Ravin's arrest and circumstances of his possession of marijuana. Once this is accomplished, the district court is to consider Ravin's motion to dismiss in conformity with this opinion.

Remanded for further proceedings consistent with this opinion.

BOOCHEVER, Justice (concurring, with whom CONNOR, Justice, joins).

Because of the importance of the issues discussed in this case and the possibility that portions of the opinion may be construed as substantially circumscribing the Alaska Constitutional right to privacy, I find it necessary to file this concurrence. By its reliance on certain United States Supreme Court cases¹ and the manner in

which some of the conclusions are set forth, the opinion may be read as limiting the right of privacy principally to protection of activities engaged in within the confines of the home.² The opinion relies chiefly on United States Supreme Court precedent, although there is no Federal Constitutional provision corresponding to art. 1, § 22 of the Alaska Constitution which specifies that "the right of the people to privacy is recognized and shall not be infringed". While Federal cases defining the right of privacy derived from other provisions of the United States Constitution are of assistance in determining the perimeters of our constitutional right to privacy, we are certainly not bound by those cases in construing the separate Alaska provision. Even when Alaska Constitutional provisions are closely akin to those of the Federal Constitution, we have stated:

While we must enforce the minimum constitutional standards imposed upon us by the United States Supreme Court's interpretation of the Fourteenth Amendment, we are free, and we are under a duty, to develop additional constitutional rights and privileges under our Alaska Constitution if we find such fundamental rights and privileges to be within the intention and spirit of our local constitutional language and to be necessary for the kind of civilized life and ordered liberty which is at the core of our constitutional heritage. We need not stand by idly and passively, waiting for constitutional direction from the highest court of the land. Instead, we should be moving concurrently to develop and expound the principles embedded in our constitutional law.³

Although the majority opinion emphasizes the right of privacy in the home, it rec-

75. O.R.S. 167.207. The Alaska legislature have also recently passed a bill which would decriminalize possession of marijuana in certain contexts.

¹ Stanley v. Georgia, 394 U.S. 557, 89 S.Ct. 1233, 22 L.Ed.2d 542 (1969); Griswold v. Connecticut, 381 U.S. 479, 85 S.Ct. 1678, 14 L.Ed.2d 510 (1965).

² The court writes that art. 1, § 22 of the Alaska Constitution " . . . was intended to give recognition and protection to the home".

³ Baker v. City of Fairbanks, 471 P.2d 386, 101-02 (Alaska 1970) (footnotes omitted).

ognizes that analysis of the Federal decisions does not indicate that the right of privacy is relegated to the home. It is true that *Griswold v. Connecticut*⁴ invalidated a Connecticut statute prohibiting the distribution of contraceptives and the dissemination of birth control information to married adults by finding a right of privacy, emanating from other constitutional provisions, within which the marital relationship, arguably home related, was protected. But the later case of *Eisenstadt v. Baird*⁵ held that a statute prohibiting the distribution of contraceptives to unmarried persons but allowing such distribution to married persons violated the equal protection clause of the fourteenth amendment. In so holding, the Court referred to *Griswold* and explained what the case stood for.

If under *Griswold* the distribution of contraceptives to married persons cannot be prohibited, a ban on distribution to unmarried persons would be equally impermissible. It is true that in *Griswold* the right of privacy in question inhered in the marital relationship. Yet the marital couple is not an independent entity with a mind and heart of its own, but an association of two individuals each with a separate intellectual and emotional makeup. If the right of privacy means anything, it is the right of the individual, married or single, to be free from unwarranted governmental intrusion into matters so fundamentally affecting a person as the decision whether to bear or beget a child.⁶

The Court held that the right of privacy involved being free to decide for oneself

whether to bear or beget a child, a right relating to the autonomy of the individual, not to a place.

Similarly, *Roe v. Wade*,⁷ in upholding the right of a woman to decide whether she should terminate her pregnancy, stated:

This right of privacy, whether it be founded in the Fourteenth Amendment's concept of personal liberty and restrictions upon state action, as we feel it is, or, as the District Court determined, in the Ninth Amendment's reservation of rights to the people, is broad enough to encompass a woman's decision whether or not to terminate her pregnancy.⁸

Again, the right of privacy pertained to the freedom of the individual to decide as to her course of action and was unrelated to any situs.

On the other hand, there are the *Stanley—Paris Adult Theatre I* group of cases⁹ holding that the "broad power to regulate obscenity does not extend to mere possession by the individual in the privacy of his own home" although obscenity is not otherwise constitutionally immune from state regulation.

Thus it appears that the United States Supreme Court has found a right of privacy to exist as to activities within the home or with reference to values associated with the home, and, additionally, as a right of personal autonomy, to make decisions that shape an individual's personal life.¹⁰

Since the citizens of Alaska, with their strong emphasis on individual liberty, enacted an amendment to the Alaska Constitution expressly providing for a right to

4. 381 U.S. 479, 85 S.Ct. 1678, 14 L.Ed.2d 510 (1965).

5. 405 U.S. 438, 92 S.Ct. 1029, 31 L.Ed.2d 349 (1972).

6. *Id.* 405 U.S. at 453, 92 S.Ct. at 1038, 31 L.Ed.2d at 362.

7. 410 U.S. 113, 93 S.Ct. 705, 35 L.Ed.2d 147 (1973).

8. *Id.* 410 U.S. at 153, 93 S.Ct. at 727, 35 L.Ed.2d at 177.

9. *Stanley v. Georgia*, 304 U.S. 557, 59 S.Ct. 1243, 22 L.Ed.2d 542 (1960); *Paris Adult Theatre I v. Slaton*, 413 U.S. 49, 93 S.Ct. 2623, 37 L.Ed.2d 446 (1973); *United States v. Orito*, 413 U.S. 139, 93 S.Ct. 2674, 37 L.Ed.2d 513 (1973); *United States v. 12 200 Ft. Reels*, 413 U.S. 123, 93 S.Ct. 2665, 37 L.Ed.2d 500 (1973).

10. On Privacy: Constitutional Protection of Personal Liberty, 48 N.Y.U.L.Rev. 670 (1973).

privacy not found in the United States Constitution, it can only be concluded that that right is broader in scope than that of the Federal Constitution. As such, it includes not only activities within the home and values associated with the home, but also the right to be left alone and to do as one pleases as long as the activity does not infringe on the rights of others. Thus, the decision whether to ingest food, beverages or other substances comes within the protection of that right to privacy.¹¹

The right to privacy, however, is not monolithic. For example, the right to decide whether to eat strawberry ice cream cannot be placed on the same level as that of deciding whether to bear a child. Moreover, the importance of the right may properly be related to the place where it is exercised, for example, at the home or in the market place. Other considerations could be the nature of relationships involved (marital, doctor-patient, attorney-client, etc.), the particular activity in question and the individual's interest in it.

Having discussed generally the contours of what I perceive to be the right to privacy under the Alaska Constitution, I shall turn briefly to the test utilized by the court in determining infringements of that right. Particularly in equal protection cases, but also as to cases alleging infringement of other constitutional rights, the United States Supreme Court,¹² and this court¹³ in the past, have followed a two-tiered test. If the right involved was deemed to be "fundamental", a statute infringing upon it is required to be "necessary" to further a

"compelling state interest". Whereas if the right infringed upon was classified as non-fundamental, any rational basis that might be conceived to justify the legislation was held to be sufficient.¹⁴ As a practical matter, the test was result oriented, since once a right was declared to be fundamental, the challenged regulation or legislative act would be stricken,¹⁵ whereas otherwise some reason could usually be found to sustain it.

I agree with the majority's departure from that test in areas where we have discretion to depart from standards established by the United States Supreme Court. With reference to laws challenged as invading the Alaskan right of privacy,¹⁶ I would apply a single flexible test dependent first upon the importance of the right involved. Based on the nature of that right, a greater or lesser burden would be placed on the state to show the relationship of the intrusion to a legitimate governmental interest. I agree with the majority opinion that interference with rights of privacy within one's home requires a very high level of justification. Similar considerations would apply to certain relationships, without reference to situs, i. e. attorney-client, doctor-patient, priest-parishioner, marital relationship, parent-child. In all cases involving a right of privacy, I believe that the relationship of the intrusion to a legitimate governmental interest must be carefully examined. The court should not abandon protection of the right of an individual to decide how to conduct his life because a rational basis may be "con-

¹ *Gray v. State*, 525 P.2d 524 (Alaska 1974).

² See *Bates v. Little Rock*, 361 U.S. 516, 80 S.Ct. 112, 4 L.Ed.2d 480 (1960); *Roe v. Wade*, 410 U.S. 113, 93 S.Ct. 705, 35 L.Ed. 2d 111 (1973).

³ *Lyden Transport, Inc. v. State*, 532 P.2d 700 (Alaska 1975); *Breese v. Smith*, 501 P.2d 159 (Alaska 1972).

⁴ *Lyden Transport, Inc. v. State*, 532 P.2d 700, 703 (Alaska 1975).

⁵ Where a fundamental right has required passage of the compelling state interest test, only one law has been found valid by the Supreme

Court, *Korematsu v. United States*, 323 U.S. 214, 65 S.Ct. 193, 89 L.Ed. 194 (1944), but no state law has passed muster. *Dunn v. Blumstein*, 405 U.S. 330, 363-64, 92 S.Ct. 995, 31 L.Ed.2d 274, 296-97 (1972) (Burger, C. J., dissenting). See also *Gilbert v. State*, 526 P.2d 1131 (Alaska 1974).

¹⁶ Of course, in any event where Federal Constitutional rights are involved, we must at least apply the minimum standards prescribed by the United States Supreme Court. *Baker v. City of Fairbanks*, 471 P.2d 380, 401-02 (Alaska 1970).

ceived" for the legislation in question. The importance of the governmental interest and the means utilized to accomplish this goal must be balanced against the nature of the particular right of privacy.¹⁷

Applying this test to the facts in this case, assuming that the defendant was found in possession of marijuana in an automobile, I agree with the majority that a valid reason existed for the prohibition due to the proven effect of marijuana on driving, and the unavailability of practical tests for ascertaining whether one is under the influence of an hallucinogenic when balanced against the rather minor status of the right involved, to possess marijuana in public. Accordingly, I would affirm the order denying the motion to dismiss.

CONNOR, Justice (concurring).

I concur in the majority opinion and the separate concurring opinion of Justice BOOCHEVER, but wish to add some observations.

The decision today properly leaves unanswered the question of how far the right to privacy, in connection with the possession of marijuana, extends outside the home. Such a determination can be made only when we are presented with specific facts against which the individual's claim of privacy can be measured, as opposed to the state's assertion of power to control the possession of marijuana. Under the test we have employed in determining the scope of the right to privacy, it is necessary to balance these conflicting claims and determine whether the state's prohibition bears a direct and substantial relationship to effectuating a legitimate state interest.

The record in the case before us does not contain facts about the particular circumstances in which appellant possessed marijuana. Accordingly, we must remand

17. 48 N.Y.U.L.Rev. 670 at 705.

1. The right to privacy which received protection in *Roe v. Wade*, 410 U.S. 113, 93

the case for further elucidation of the facts.

It is certain that the right to privacy does not vanish when one leaves the home.¹ There are certain aspects of personal autonomy which one carries with him even when he ventures out of the home, though the claim to privacy diminishes in proportion to the extent that one's person and one's activities impinge upon other persons. But, in order to trace the contours of the right to privacy, it will be necessary to engage in a critical analysis of the facts of each case which presents itself for decision. Only in this fashion can the right to privacy, outside the home, be determined on a reasoned, coherent basis so as to furnish the courts and the public with reliable rules of action. Much definitional work, therefore, remains to be done in the cases yet to be determined.



In the Matter of the ALASKA BAR ASSOCIATION, Petitioner,

v.

Robert F. MARTIN, Respondent.

No. 2495.

Supreme Court of Alaska.

July 14, 1975.

The Bar Association brought disciplinary proceeding and recommended a suspension. The Supreme Court held that the respondent's misconduct warrants suspension from practice for a period of 6 months.

Suspension ordered.

S.Ct. 705, 35 L.Ed.2d 147 (1973), has nothing to do with the locus of the home and, for the most part, is concerned with matters occurring outside the home.

Article I - State Constitution

Imprisonment
for Debt

SECTION 17. There shall be no imprisonment for debt. This section does not prohibit civil arrest of absconding debtors.

Eminent
Domain

SECTION 18. Private property shall not be taken or damaged for public use without just compensation.

Right to
Bear Arms

SECTION 19. A well-regulated militia being necessary to the security of a free state, the right of the people to keep and bear arms shall not be infringed.

Quartering
Soldiers

SECTION 20. No member of the armed forces shall in time of peace be quartered in any house without the consent of the owner or occupant, or in time of war except as prescribed by law. The military shall be in strict subordination to the civil power.

Construction

SECTION 21. The enumeration of rights in this constitution shall not impair or deny others retained by the people.

* {
Right of
Privacy

SECTION 22. The right of the people to privacy is recognized and shall not be infringed. The legislature shall implement this section.

(The addition of this section, as an amendment to Article I, was approved by the voters of the state August 22, 1972 and became effective October 14, 1972.)

ARTICLE II

THE LEGISLATURE

Legislative
Power;
Membership

SECTION 1. The legislative power of the State is vested in a legislature consisting of a senate with a membership of twenty and a house of representatives with a membership of forty.

Members;
Qualifications

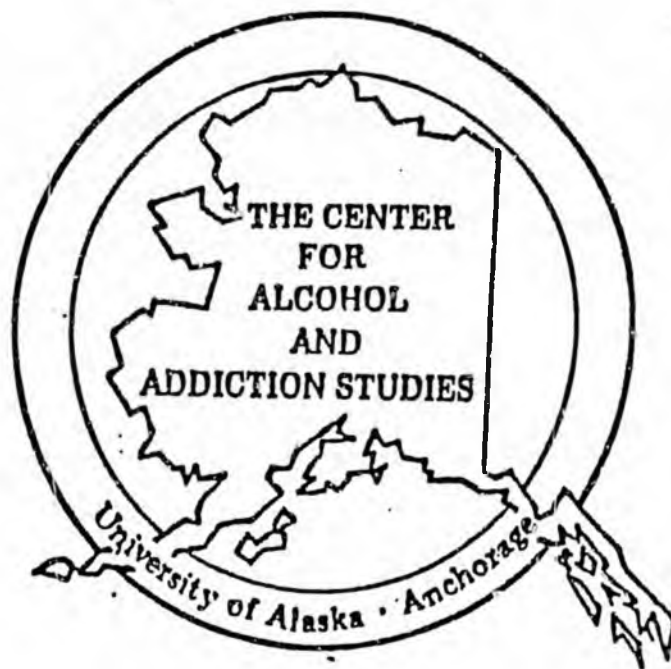
SECTION 2. A member of the legislature shall be a qualified voter who has been a resident of Alaska for at least three years and of the district

CONFIDENTIAL
A.

Confidential

Adolescent Drug-Taking Behavior Followup Study

Juneau: Grade 7 thru 12



**Bernard Segal, Ph.D.
The Center for Alcohol and Addiction Studies
University of Alaska Anchorage
October, 1987**

**Funded by a grant from the State Office of Alcoholism and Drugs Abuse,
Department of Health and Social Services**

This document became public on December 15, 1987.

Preface

Adolescent Drug-Taking Behavior Followup Study (Preliminary Findings)

During 1981 and 1982 an extensive statewide study, sponsored by the State Office of Alcoholism and Drug Abuse (SOADA), was undertaken by the Center for Alcohol and Addiction Studies (CAAS) to estimate the prevalence of drug-taking behavior among Alaskan youth. A comprehensive report of the findings was released in 1983 (Segal et al., 1983). That research involved eight widely separated urban and rural school districts representative of the different regions of Alaska, except for the Aleutian chain. The locations were Anchorage, Juneau, Bethel, Fairbanks, Juneau, Kotzebue, Nome, and Sitka. These sites were selected in order to obtain a representative sample of the state's junior and senior high school students. This research also served to establish baseline information about drug-taking behavior among Alaskan youth so that comparisons could be made with subsequent studies.

The present research, also under the auspices of a grant from SOADA, is a follow-up study of the initial study undertaken during 1981-1982. The overall aims of the current study are: (1) to assess the nature and extent of current drug-taking behavior among Alaskan youth, (2) to compare the current findings with the initial study of drug-taking behavior, (3) to examine psychosocial characteristics associated with use and nonuse of chemical substances, and (4) to explore some of the implications that the findings have for prevention of substance abuse. Some of the specific objectives are:

- (1) To obtain demographic and socialization information about adolescents in grades 7 - 12 relative to use or nonuse of chemical substances.
- (2) To obtain information on the prevalence of specific chemical substances, including alcohol and tobacco.
- (3) To obtain data relating to the patterns of drug-taking behavior, including alcoholic beverages and tobacco products.
- (4) To obtain data relating to actual or perceived peer group use of specific drugs, including alcohol and tobacco.
- (5) To obtain information on the consequences of drug-taking behavior
- (6) To obtain information about which factors serve to contribute to or mitigate against drug-taking behavior.

Introduction

The apparent ongoing use of mind-altering substances in the United States, particularly by youth, has continued to challenge the efforts of educators, health professionals, law enforcement agencies, and governmental authorities, to deal with the problem. Despite significant efforts at prevention of drug abuse, it is patently clear that some youth will try drugs, and that a few will continue to use them to the point where they become substance abusers. From large surveys conducted in the United States, we have seen that there was an upward trend in the use of illicit drugs that began during the 1970s, which reached its peak in the 1980s. There is still considerable concern that while the use of many illicit psychoactive substances is beginning to decline, others such as cocaine are just beginning to stabilize, or even show modest increases in use.

This study provides an opportunity to review what is happening within Alaska with respect to the use of illicit psychoactive substances and about drinking and use of tobacco products among the state's adolescent population. It is envisioned that these findings will be useful to both the state and school districts in their efforts to address the continuing problem of drug use among adolescents.

It is important to note that the findings reported herein are based on self-report questionnaires. Although the research literature continues to indicate that such data are valid, a note of caution should be introduced. The findings can only reflect what the adolescent respondents say they think they have taken, and not what was actually used. It is well known that counterfeit and lookalike drugs exist, and that youngsters may have taken such substances thinking that they were the "real thing." In this instance what is important is that drug-taking behavior occurred, and that it was reported as having had occurred. Furthermore, it is always possible that some adolescents who may have tried a chemical substance may not have reported such use, or that some students may have either over- or under-reported their use. Each questionnaire was reviewed for consistency of responses to attempt to obtain reliable and valid data.

Confidentiality and Anonymity

The purpose of this research was to gain an understanding of drug-taking behavior among Alaskan Adolescents, and not to identify those who use or have tried a drug. Considerable effort was undertaken to obtain the most reliable and valid responses from the students choosing to participate in the study by ensuring their anonymity and confidentiality. The student's names were not asked for in any phase of the research, nor were any identifying measures used except to identify the community in which surveying was undertaken. The only

number of students in grades 7-12 is not known, it is not possible to report what percentage of the total population of students in grades 7-12 is represented in the sample. A description of the samples follows.

Characteristics of the Juneau Student Sample

<u>Gender</u>	<u>N</u>	<u>%</u>	<u>Ethnicity</u>	<u>N</u>	<u>%</u>	<u>Grade</u>	<u>N</u>	<u>%</u>
Males	199	47.6	Alaska Native	41	10.0	7	86	20.6
Females	218	52.2	White	317	75.8	8	88	21.1
Unreported	1	.2	Am. Indian	11	2.6	9	70	16.7
Total	146		Asian-Pacific	21	5.0	10	66	15.8
	418?		Black	10	2.4	11	78	18.7
			Hispanic	6	1.4	12	29	6.9
			Other	6	1.4	NR*	1	.2
			Not reported	6	1.4			

*Not reported

Participation by School, Gender*, and Grade*

<u>School</u>	<u>Grade</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>Total</u>
Drake								
Males		21	22					43
Females		22	27					49
Dryden								
Males		20	17					37
Females		23	21					44
J. Alternative								
Males			1	19	1			21
Females				15	0			15
Juneau-Douglas H.S.								
Males				11	37	37	13	98
Females				25	28	41	16	110
Total:		86	88	70	66	78	29	417
Males								199
Females								218

*One student did not report gender, and one did not indicate grade.

The extent to which this sample is representative of the school district's student population cannot be estimated because the actual class sizes and

Table 1
Opportunity to Try and Trying Drugs:
Comparison of 1982 and 1987 Findings
Juneau Schools
Grades 7-12

<u>Drug</u>	<u>1987</u> (n=418) Percent of Sample <u>Having a Chance to Try</u>	<u>1982</u> (n=298) Percent of Sample <u>Having a chance to Try</u>
Marijuana	69.4	68.7
Hallucinogens	25.1	26.5
Cocaine	30.1	34.6
Heroin	8.6	9.1
Inhalants	47.4	28.5
Stimulants	46.2	44.6
Depressants	22.7	18.1
Tranquilizers	24.2	13.4
Crack	1.4	--

Figure 2A
Juneau Schools
Lifetime Experience with One or More Chemical Substances
Grades 7-12

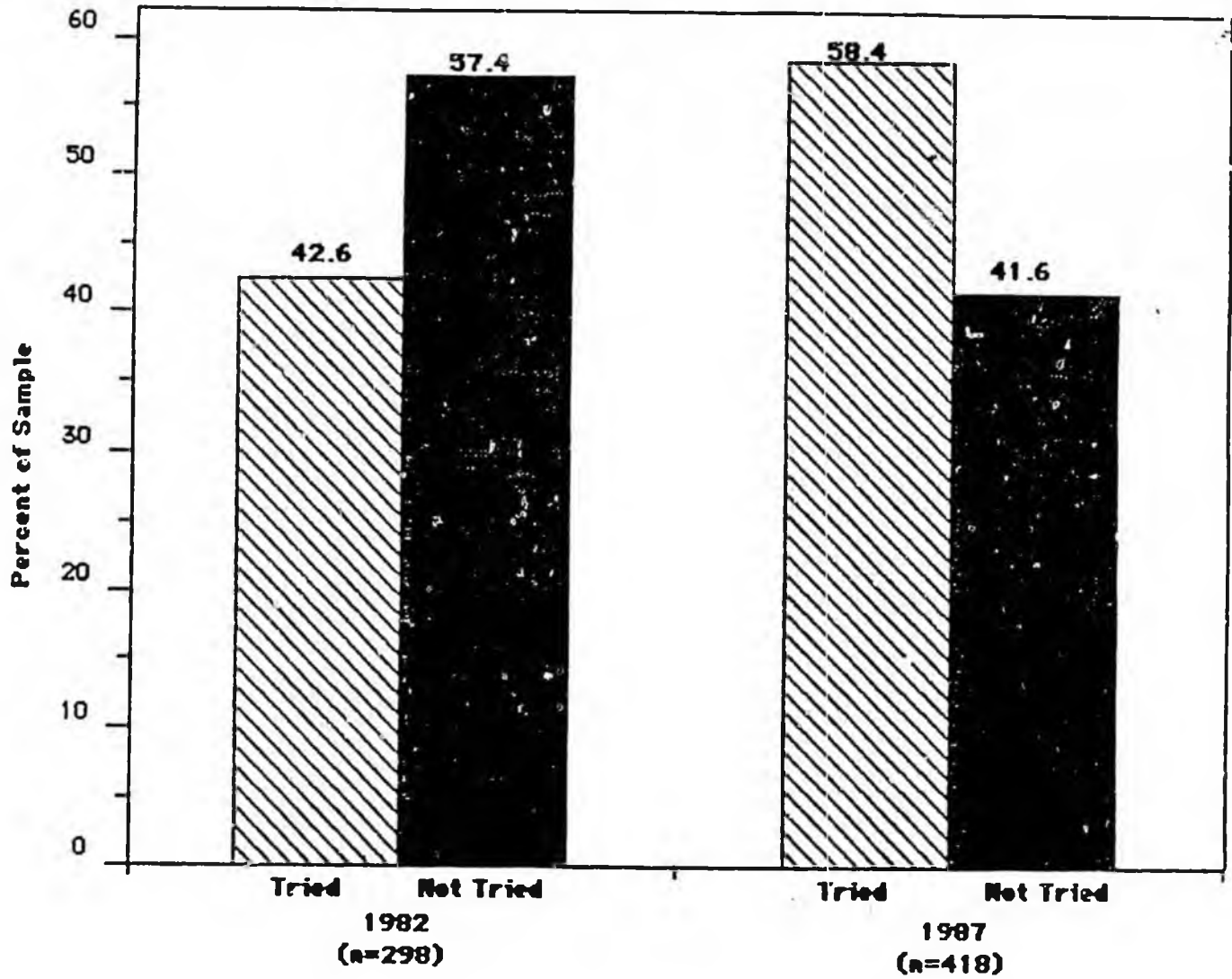


Table 2
Lifetime Experience with One or More
Chemical Substances
1982 and 1987
Juneau Schools
Grades 7-12

<u>Drug</u>	<u>Lower*</u> <u>Limit</u>	<u>1987</u> <u>(n=418)</u>	<u>Upper*</u> <u>Limit</u>	<u>1982</u> <u>(n=298)</u>	<u>Change</u>
Marijuana	48.5	53.3	58.1	51.7	+ 1.6%
Hallucinogens	10.6	13.9	17.2	8.1	+ 5.8%
Cocaine	9.5	12.7	15.9	18.8	- 6.1%
Heroin	0.8	2.2	3.6	2.7	- .5%
Inhalants	18.2	22.2	26.2	20.8	+ 1.4%
Stimulants	25.0	29.4	33.8	32.2	- 2.8%
Depressants	8.2	11.2	14.2	12.8	- 1.6%
Tranquilizers	9.5	12.7	15.9	9.4	- 3.3%
Crack	0.3	1.4	2.5	--	--

*95% Confidence Interval. These figures represent the lower and upper confidence intervals within which the true population value lies (95 out of 100 times).

Figure 3
Number of Drugs tried by Gender
Juneau Schools
Grades 7-12
1987

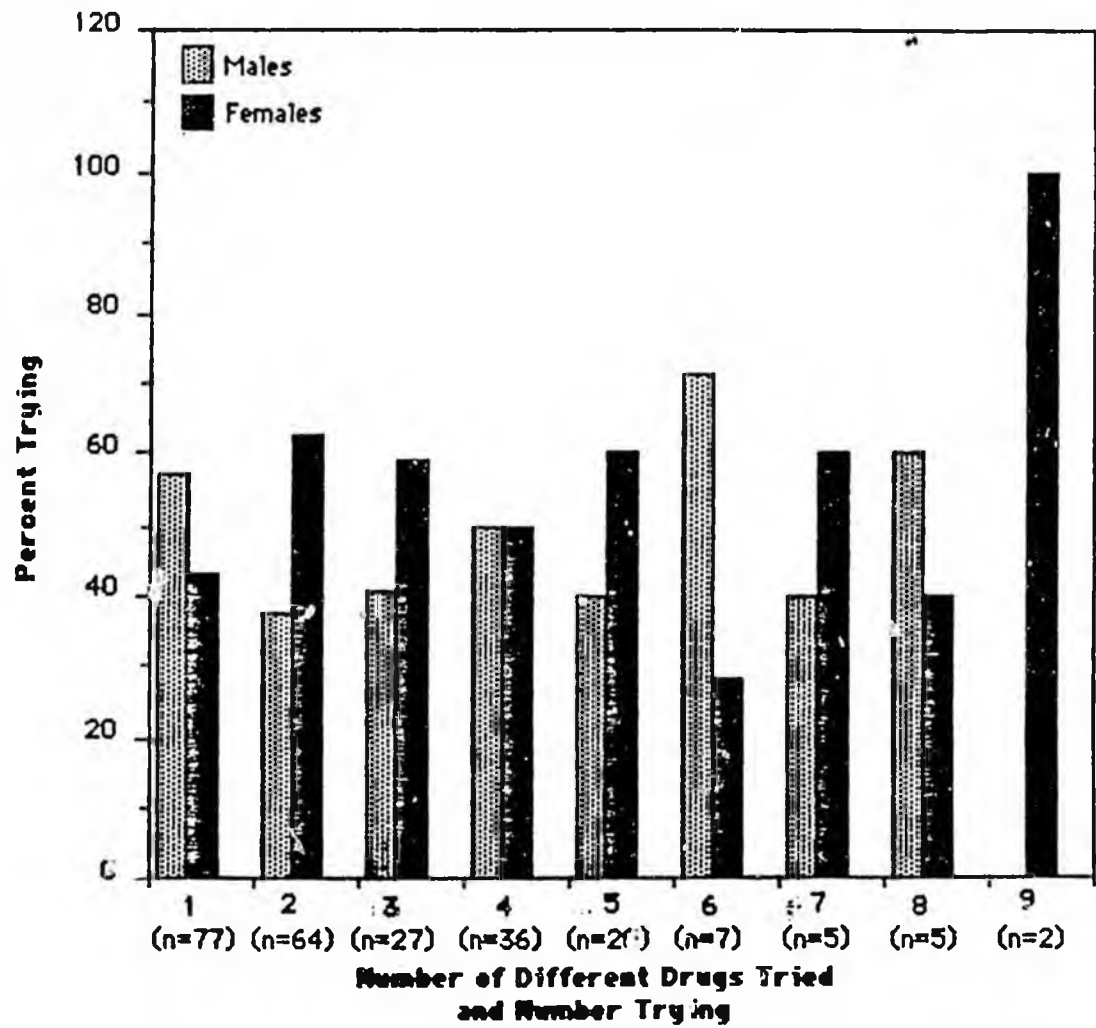


Figure 4B
Experience with Drugs by Gender and Grade
Juneau Schools
Grades 7-12
1987

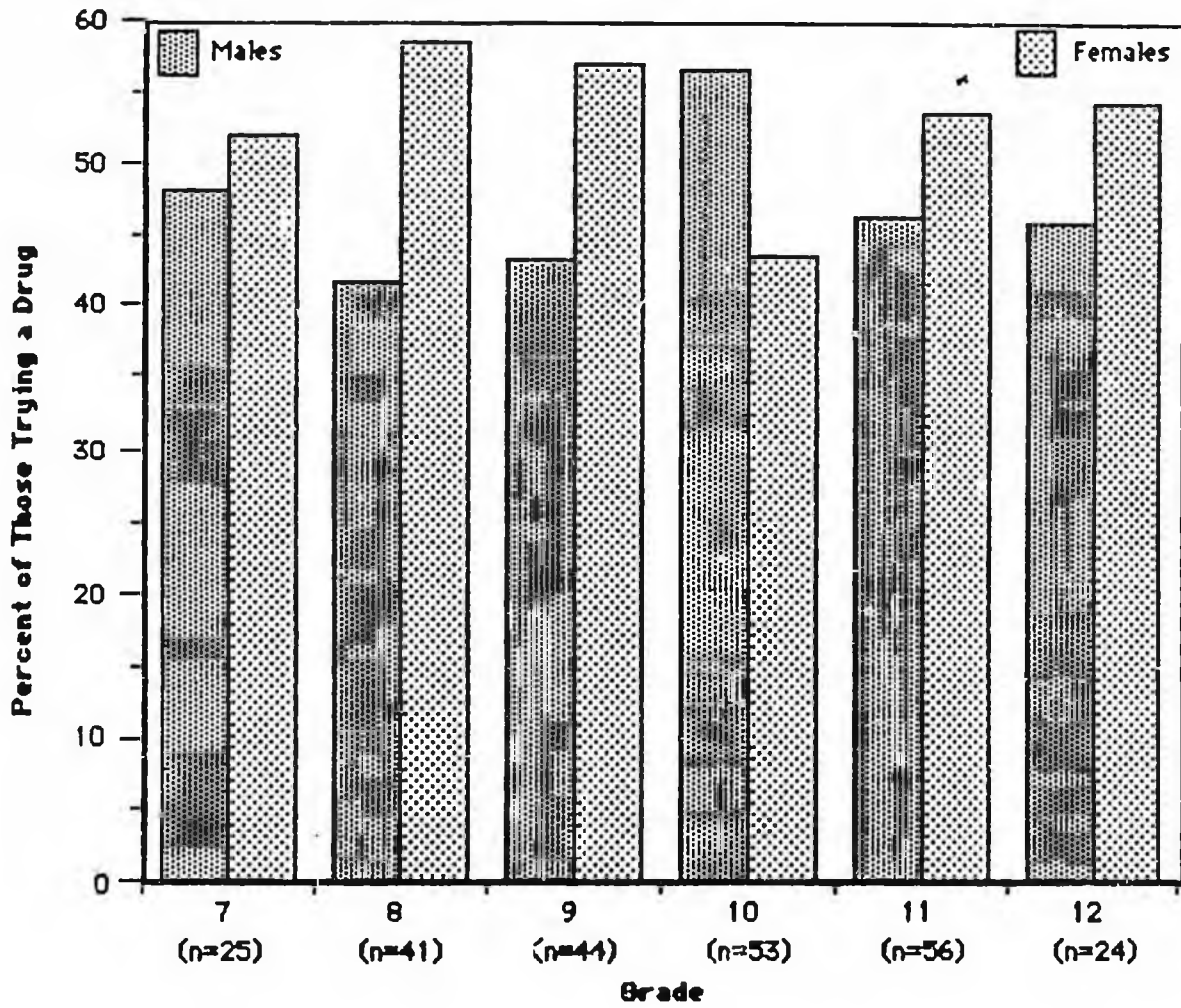
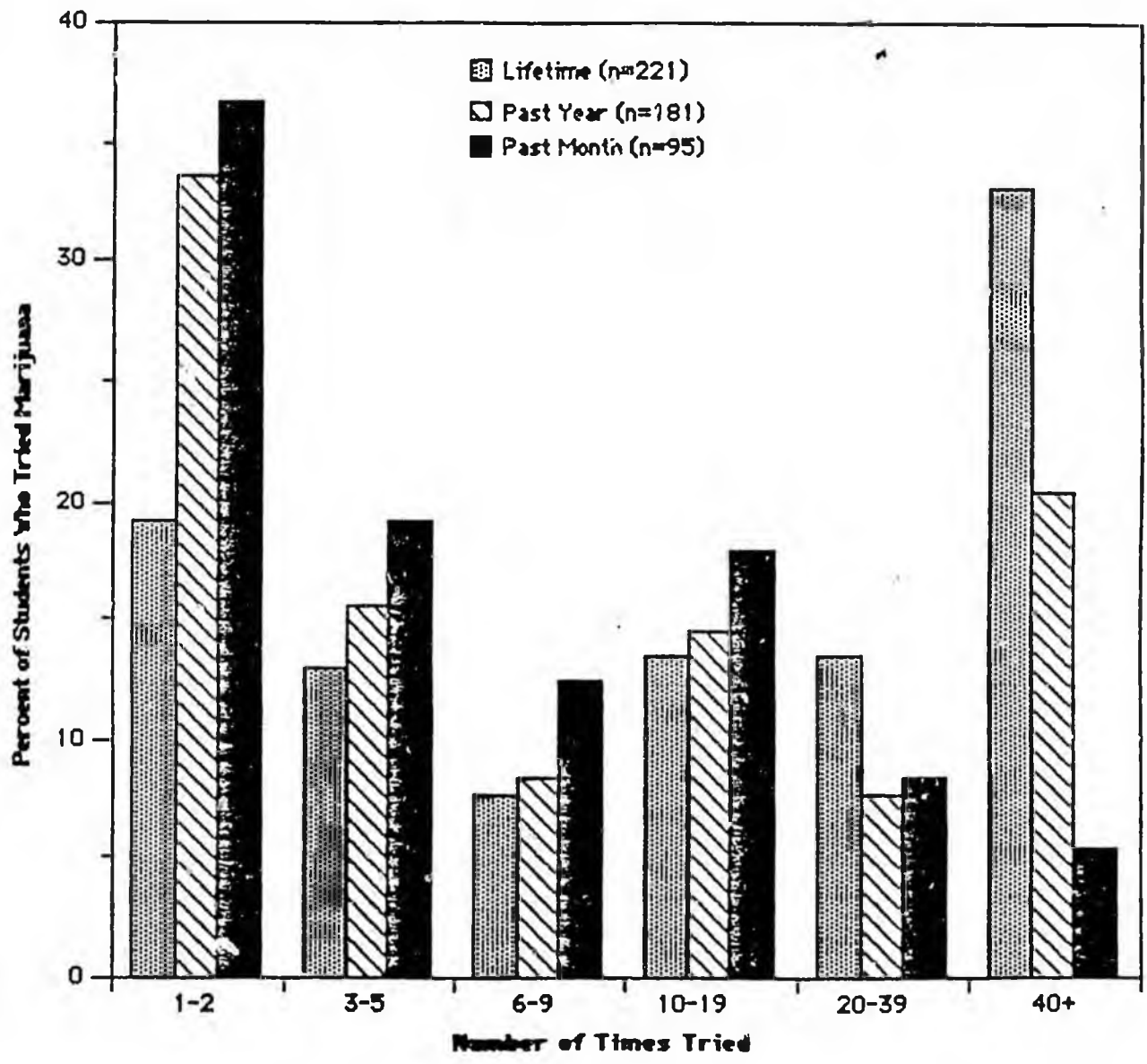


Figure 5A
Frequency and Recency of Marijuana Use
Juneau Schools
Grades 7-12
1987



Source: Adolescent Drug-Taking Behavior Followup Study/The Center for Alcohol and Addiction Studies/Bernard Segal, Ph.D., University of Alaska Anchorage, October, 1987. Same study done for the cities of Anchorage, Bethel, Fairbanks, Kotzebue, Nome, and Sitka.

2

number of students (6.7%) have indicated that they used cocaine 6-9 times during the past month. More frequent use of cocaine has occurred among a small number of students one or more years ago.

3. Stimulants

Figure 5C reports on the pattern of stimulant use. As can be observed, among those who indicated having tried stimulants a large percentage of have done so experimentally (less than five times) during the past month and year. More recent and frequent is also reported by a small number of students, some of which occurred during the past month.

4. Hallucinogens

An active pattern of hallucinogen use is evident among the number of students who reported having tried a hallucinogenic substance. The results, shown in Figure 5D, indicate that the predominant level of use has been one or two times, but 75% of those who have tried it did so during the past month. More recent and frequent use is also reported, with 6.3 percent having used such substances 10-19 times during the past month. More extensive use has also occurred, but this has taken place a year or more ago.

5. Depressants

The predominate mode of experience with depressant substances, as shown in Table 5E, appears to be primarily experimental (1-2 or 3-5 times), but some students have used depressants more extensively.

6. Inhalants

Inhalant use, as revealed in Table 5F, shows a varying pattern of use, ranging from infrequent (1-2 times) during the past month to more frequent (40+ times) during the past month. The overall pattern suggests that an active involvement with inhalant substances is occurring.

7. Tranquilizers

Figure 5G shows that use of tranquilizer type drugs has been chiefly experimental, but that students have used it within the past month, and that a small number have also used such substances extensively.

In summarizing the findings pertaining to recency and frequency of drug-taking behavior, it appears that there is a mixed pattern of ongoing experimental and more sustained use of most substances. The substances used most recently and with greater frequency are marijuana, cocaine, stimulants, hallucinogens, and inhalants.

Age of First Experience With Marijuana, Stimulants, and Inhalants

Figure 6 shows the ages with which respondents indicated having first tried

Figure 5D
Frequency and Recency of Hallucinogen Use
Juneau Schools
Grades 7-12
1987

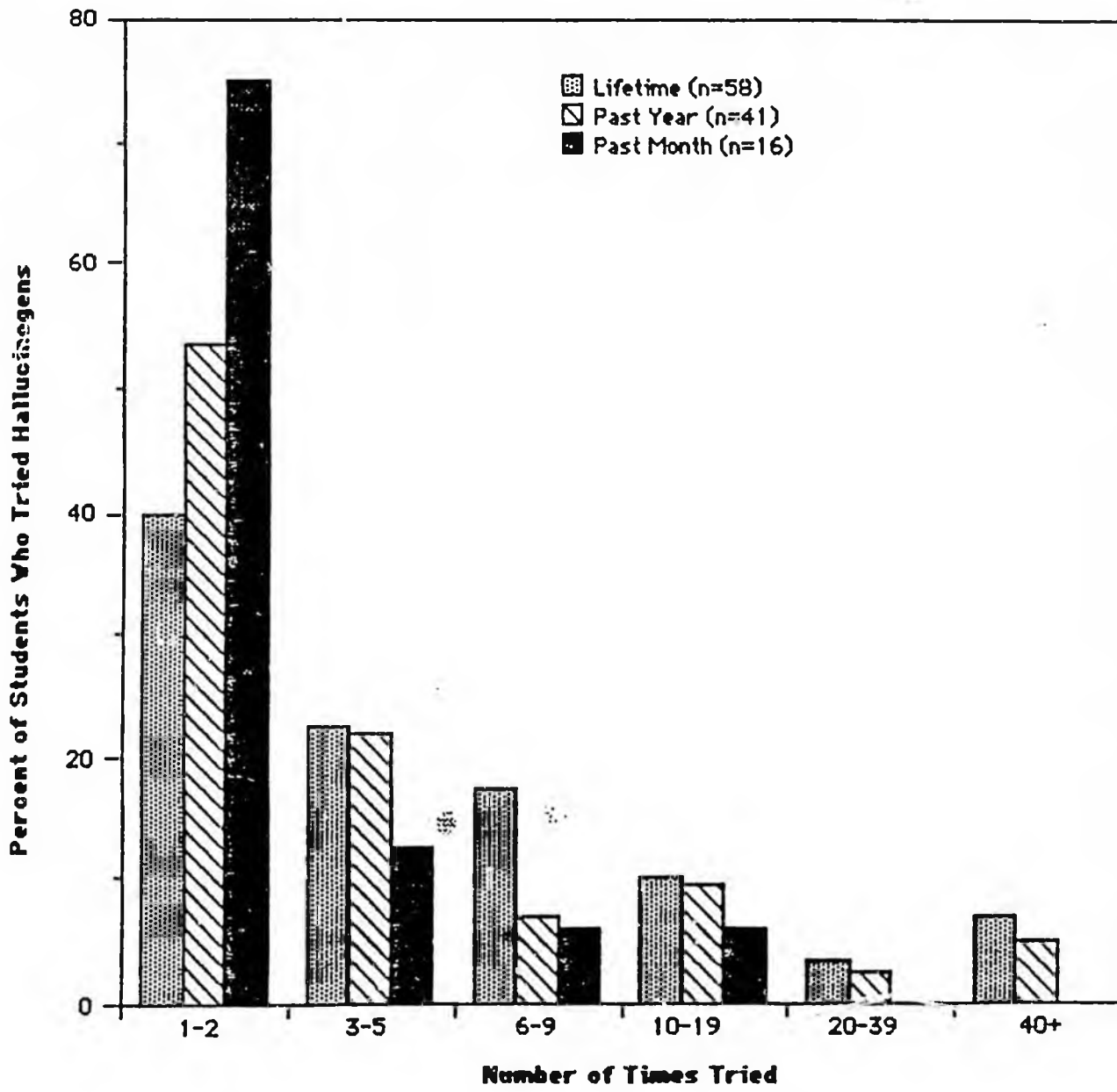


Figure 5G
Frequency and Recency of Tranquilizers Use
Juneau Schools
Grades 7-12
1987

