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ABSTRACT

This investigation relates to the research questions: (1) Do college students' perceptions of the dangerousness of specific drugs now parallel the government's listed ranking? (2) Where do legal drugs fall on the continuum of perceived dangerousness? (3) What might be good dimensions to characterize perceptions? (4) What is the relationship among these dimensions? and (5) How might a college drug education course change these perceptions? A questionnaire concerning perceptions of drug usage was administered to two undergraduate drug education classes on a pre-post course basis. Data is presented in numerical tables and graphs along the dimensions of usage, dangerousness, pleasantness, and strength. There were no statistically detectable changes in sources as a result of drug education courses; however the authors discuss the interpretation of the chosen dimensions as having posed discriminating problems for respondents. (Author/JS)

A Three Dimensional Structure of Drug Attitudes

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Until recently the standard modus operandi for drug abuse prevention-education has been to accent and sometimes exaggerate the dangers of using drugs. School children are told of the horrible repercussions of drug use by a stream of cops, former addicts, and films that push the message, "Drugs are dangerous, stay away from them, you run the risk of ruining your, and your family's lives." Nevertheless, the use of licit and illicit drugs continues unabated with usage of some classes of drugs on the increase (US Dept. of Justice, 1974; NCMDA, 1973).

The federal government, with the passage of the Controlled Substance Act of 1971 listed five classes of drugs the sale and possession of which was to be controlled. The criteria for placing a particular drug in a particular category were: 1) The abuse potential of the drug; 2) The degree of safety with which the drug can be used; and 3) Whether or not there was a currently accepted medical use for the drug; and 4) The degree of risk of psychological and/or physical dependence. Three of the criteria are directly related to the degree of danger perceived to be connected with usage of the drug. In other words these five categories can be seen as the government's list of drugs of concern, arranged in order of dangerousness, mitigated by whether or not there is an accepted medical use for the drug.

But, how do people view the drugs that are available for their use through legal and illegal channels? The following will document an attempt to set up a cognitive structure of perceptions of a wide variety of drugs presently in use in the United States.

A number of questions were central to the research: 1) Do college students' perceptions of the dangerousness of specific drugs now parallel the government's

listed ranking; 2) Where do legal drugs fall on the continuum of perceived dangerousness? 3) What might be good dimensions on which to characterize perceptions? 4) What is the relationship among these dimensions? 5) How might a college drug education course change these perceptions?

Development of the instrument.

A fairly comprehensive listing of drugs in use was compiled. Many of the more esoteric drugs were left off in favor of classifications such as "tranquilizers", "sedatives", "stimulants" and so forth. Alcohol, as a heavily used drug was broken down into beer, wine, and liquor. Cola, and coffee and tea were included in the listing (see Table 1).

Research by Osgood et. al. (1967) has indicated that responses to concepts on a semantic differential format usually factor into three major dimensions. They have labeled these "value", "potency", and "activity". Using these three factor derived labels as guides, the concepts "pleasantness", "strength", and "dangerousness" were selected as dimensions that were potentially relevant to drugs and drug usage. The major dimension of interest was "dangerousness".

The format of the instrument for perceptions of the dimensions was as follows: the target dimension headed the top of the page, followed by one of two random listings of all 18 drugs. Subjects were asked to evaluate each drug with respect to the target dimension on a Likert type scale with ten possible points on the continuum. The extremes of the continuum were labeled for example "very safe", "very dangerous", or "very pleasant", "very unpleasant", etc.

The drug usage section of the instrument asked for usage data for each of the 18 drugs. Four categories of usage were included: "never", "tried once", "sometimes", and "often".

Population

The resulting instrument was administered to two undergraduate classes on a pre-post course basis. One class was enrolled in an undergraduate Community Health and Drug Education course and the other was an evening class in Drug Education. The

evening class was part of a five-term sequence leading toward a chemical dependency counseling certificate. For the purpose of this initial analysis, data from both sources were analyzed together.

Drug Usage

The usage data (Table 1) seem to indicate a population that, with a few exceptions, does not differ significantly from the national college norm (NCMDA, 1973). Alcoholic beverages are by far the drug of choice.

Ninety-one percent of the participants answered "sometimes" or "often" for both "Liquor" and "Wine", and 86% answered the same for beer. These figures were outdistanced only by the "non-drug" national drinks, "coffee", "tea", and "cola". Pre-and post usage data were essentially identical.

No correlation coefficient was calculated but the graphic portrayal of usage and perceived dangerousness indicates a fairly consistent decline in usage as the perceived dangerousness of the drugs increases. The two major exceptions to this trend are marijuana and liquor. Liquor is seen as fairly dangerous and yet it ranks high on the usage scale. Marijuana on the other hand is seen as one of the least dangerous drugs and yet is also low on the usage scale. Perhaps this reflects its illegal nature coupled with an awareness of its more recent image as a relatively benign drug.

Drug Perception Dimensions

The objectives of this research were to attempt to describe cognitive dimensions of various drugs in the minds of the respondents and to see if and how these would be changed by drug abuse education programs. These objectives were only partially fulfilled.

One problem was the dimensions themselves. Data in this study indicates that the dimensions "strength" and "dangerousness" were perceived to be similar to the respondents. Figure 1 plots the values of each drug for each of the three factors. With a few exceptions, most notably prescriptions drugs and tobacco, the dimensions strength and dangerousness track quite closely together.

Pleasantness, on the other hand, shows a slight trend to decrease as dangerousness increases. The major exceptions to this trend are liquor, wine, hashish, and opiates.

When usage is graphed against perceived dangerousness, it shows a definite trend to decrease as dangerousness increases. Marijuana, hashish, and liquor are the deviates in this case (Figure 2). When plotted as a function of perceived decreasing pleasantness, there is also a definite but erratic decline.

Factor Structures

All data were factored within each of the four domains: usage; dangerousness; pleasantness; strength, using principal factor with varimax rotation. Tentative composite scales were constructed using the resulting four factors as a basis.

Item-scale correlation matricices were computed for each item within each of the four domains. Any item correlating .6 (Pearson r) or higher with a composite, was included in the composite. Items not correlating .6 or higher were dropped from the composite scores. These ammended composites scales are presented in Table 2.

The most striking similarity among the scale structures is that between Dangerousness and Strength. When factored on the basis of perceived strength, two changes occurred: hashish and marijuana broke off to form their own "THC" factor; and cocaine, hallucinogens, and opiates jointed the other drugs in factor three. Opiates did not load on any of the four dangerousness factors.

As might be expected, usage data and pleasantness data factor out similarly but are by no means identical. A total of eight of the eighteen drugs loaded heavily on two factors. Cola and coffee join with the alcohol factor.

Legal vs. Illegal Drugs

Whether or not usage of a particular drug was illegal without prescription was a clear determinant of where the drug would find itself place by respondents. Legal drugs generally bunched in two factors which could be loosely labeled an alcohol factor and a household drug factor. The alcohol factor usually brought beer, wine, and liquor together. Cola and coffee joined these on the pleasantness

dimension. The other, "household" drug factor frequently consisted of aspirin, over-the-counter drugs, and sometimes prescription drugs and cola.

Drugs that were illegal without prescription bunched in different ways. A core group consisting of solvents, sedatives, tranquilizers, and stimulants made up the nucleus of one factor with marijuana and hashish making up a nucleus for another factor. These core nuclei held up pretty well across the dimensions.

Usage data clearly divided the illegal from the legal drugs. Marijuana was the only illegal drug that came even close in reported frequency of usage to the legal drugs, cola, coffee, wine, liquor, beer, aspirin, prescription drugs, over-the-counter drugs, and tobacco.

Dangerousness compared with the Government Schedules.

Marijuana and liquor are the major variations from the governments list of dangerous drugs. Liquor was seen by these students to be slightly more dangerous than hashish, and marijuana was listed as less dangerous than beer, wine, or prescription drugs. In fact the only drugs seen as less dangerous than marijuana were cola, coffee, and aspirin. The remainder of the rankings put forth by the government's schedules were disturbed only by the intrusion of solvents (when sniffed) as the second most dangerous drug.

Pre-post Course Changes

There were no statistically detectable changes in scores as a result of drug education courses. If anything, scores indicate that there was a non-significant trend to perceive some drugs, Cocaine, Hallucinogens, Hashish and Marijuana, as slightly less dangerous and more pleasant. Usage data was virtually identical across the two applicationsof the instrument.

This may not be as surprising as it sounds. College students today have a plentiful source of information on which to base their perception and frequently see drug use within their ranks. It would probably take a lot of data deviant from that which they already have to change their minds drastically about a particular class of drugs.

Comments

The dimensions chosen to characterize specific drugs did not prove to be as enlightening as had been hoped. This may be a fault of the original selection of the dimensional concepts, or it may be due to other factors. Dangerousness and strength were perceived as closely related dimensions. Perhaps the concept "active" would have been a more profitable dimension to use than "strength". On the other hand, there is a clear reluctance on the part of the respondents to discriminate among the drugs on the pleasantness dimension. Means per drug ranged from a low ("very pleasant") rating of 3.8 for Cola to a high ("very unpleasant") of 7.5 for Solvents. This lack of discriminating may in part be due to a reluctance of these college students to divorce what they perceive as the dangerous consequences of various types of drug use from the pleasantness that the drug may produce at the moment. Otherwise it is hard to imagine cola, coffee, wine, liquor, and beer as being rated the most pleasant drugs, (in that order).

Perhaps the lack of experience of this sample with most of the illegal drugs plays a very important part in perceptions of the characteristics of the drug. Of those drugs listed as most pleasant, only marijuana and hashish are illegal drugs when used without prescription. On the unpleasant end of the scale, only solvents are legally obtainable without a prescription. Hashish is the only one of those drugs deemed to be pleasant that also low on the usage scale.

Do people's perceptions of a drug have an effect on their usage of that drug. The obvious answer is yes. Perceptions of the dangerousness, strength, and pleasantness obviously effect usage. Data on the effect of drug education courses on usage have begun to bear this out. Stuart (1974) reports that as students' perceptions of a drug changed, their potential usage of that drug increased. Usage went up as information increased and worry about the drug decreased.

The afore reported data are merely precursory to a more complete picture of the cognitive structure of perceptions of the characteristics of drugs, and how these perceptions affect dispositions to drug usage.

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Table 1

Reported Drug Usage

	F	%
1. Coffee or Tea		
(1) Never	11	03
(2) Tried Once	24	05
(3) Sometimes	139	31
(4) Often	275	61
Total	449	
2. Tobacco		
(1) Never	78	18
(2) Tried Once	104	24
(3) Sometimes	82	19
(4) Often	172	40
Total	436	
3. Tranquilizers		
(1) Never	274	63
(2) Tried Once	47	11
(3) Sometimes	88	20
(4) Often	28	06
Total	437	
4. Cola		
(1) Never	4	01
(2) Tried Once	5	01
(3) Sometimes	178	40
(4) Often	258	58
Total	445	
5. Beer		
(1) Never	28	07
(2) Tried Once	33	08
(3) Sometimes	199	46
(4) Often	173	40
Total	443	
6. Prescription Druge		
(1) Never	38	09
(2) Tried Once	22	05
(3) Sometimes	323	73
(4) Often	57	13
Total	440	
7. Liquor		
(1) Never	19	04
(2) Tried Once	19	04
(3) Sometimes	269	61
(4) Often	135	31
Total	442	

Table 1 (Continued)

Reported Drug Usage

		F	%
8.	Over The Counter Drugs		
	(1) Never	114	26
	(2) Tried Once	52	12
	(3) Sometimes	246	55
	(4) Often	33	07
	Total	445	
9.	Hallucinogens		
	(1) Never	384	86
	(2) Tried Once	31	07
	(3) Sometimes	22	05
	(4) Often	11	03
	Total	448	
10.	Solvents (when sniffed)		
	(1) Never	418	94
	(2) Tried Once	16	04
	(3) Sometimes	8	02
	(4) Often	3	01
	Total	445	
11.	Marjuana		
	(1) Never	202	45
	(2) Tried Once	67	15
	(3) Sometimes	122	27
	(4) Often	57	13
	Total	448	
12.	Hashish		
	(1) Never	305	69
	(2) Tried Once	43	10
	(3) Sometimes	69	16
	(4) Often	28	06
	Total	445	
13.	Opiates		
	(1) Never	402	91
	(2) Tried Once	16	04
	(3) Sometimes	14	03
	(4) Often	12	03
	Total	444	
14.	Sedatives		
	(1) Never	316	71
	(2) Tried Once	47	11
	(3) Sometimes	62	14
	(4) Often	21	05
	Total	446	

(percents rounded to nearest whole)

Table 1 (Continued)

Reported Drug Usage

		F	%
15.	Stimulants		
	(1) Never	319	72
	(2) Tried Once	45	10
	(3) Sometimes	51	12
	(4) Often	28	06
	Total	443	
16.	Cocaine		
	(1) Never	403	91
	(2) Tried Once	12	03
	(3) Sometimes	22	05
	(4) Often	8	02
	Total	445	
17.	Wine		
	(1) Never	17	04
	(2) Tried Once	22	05
	(3) Sometimes	303	67
	(4) Often	108	24
	Total	450	
18.	Aspirin		
	(1) Never	12	03
	(2) Tried Once	6	01
	(3) Sometimes	334	74
	(4) Often	98	22
	Total	450	

(percents rounded to nearest whole)

Table 2
Composite Scales

Usage	Dangerousness	Strength	Pleasantness
(1) Tobacco	(1) Liquor	(1) Liquor	(1) Liquor
Beer	Wine	Wine	Wine
Liquor	Beer	Beer	Coffee
			Beer
(2) Sedatives (s)	(2) Cola	(2) Cola	Cola
Stimulants	OTC Drugs	OTC Drugs	
Opiates	Tobacco	Tobacco	(2) Aspirin
Cocaine	Prescriptions	Coffee	OTC Drugs
Hallucinogens	Coffee	Aspirin	Prescription
Marijuana	Aspirin		
Hashish		(3) Solvents	(3) Solvents
	(3) Solvents	Sedatives	Sedatives (p)
(3) Tranquilizers	Sedatives	Tranquilizers	Tranquilizers (p)
Sedatives (p)	Tranquilizers	Stimulants	Stimulants (p)
	Stimulants	Opiates	Opiates (p)
(4) Cola		Cocaine	Cocaine (s)
OTC Drugs	(4) Marijuana	Hallucinogens	Hashish (s)
Aspirin	Hashish		Hallucinogens (s)
	Cocaine	(4) Marijuana	Marijuana (s)
Loading $<$ .6:	Hallucinogens	Hashish	
Prescription Drugs			(4) Cocaine (p)
Wine	Loading $<$ .6:	Loading $<$ .6:	Hallucinogenes (p)
Coffee	Opiates	Prescription Drugs	Marijuana (p)
Solvents			Hashish (p)
			Tranquilizers (s)
			Opiates (s)
			Stimulants (s)
			Sedatives (s)
			Loading $<$ .6:
			Tobacco

p = primary loading
s = secondary loading
OTC = Over the Counter Drugs
(All drugs correlate $\geq$ .6 with the scale under which they are listed.
N = 905 cases (pre + post).

Figure 1

Mean Dimension Scores Per Drug In
Ascending Order of Perceived Dangerousness

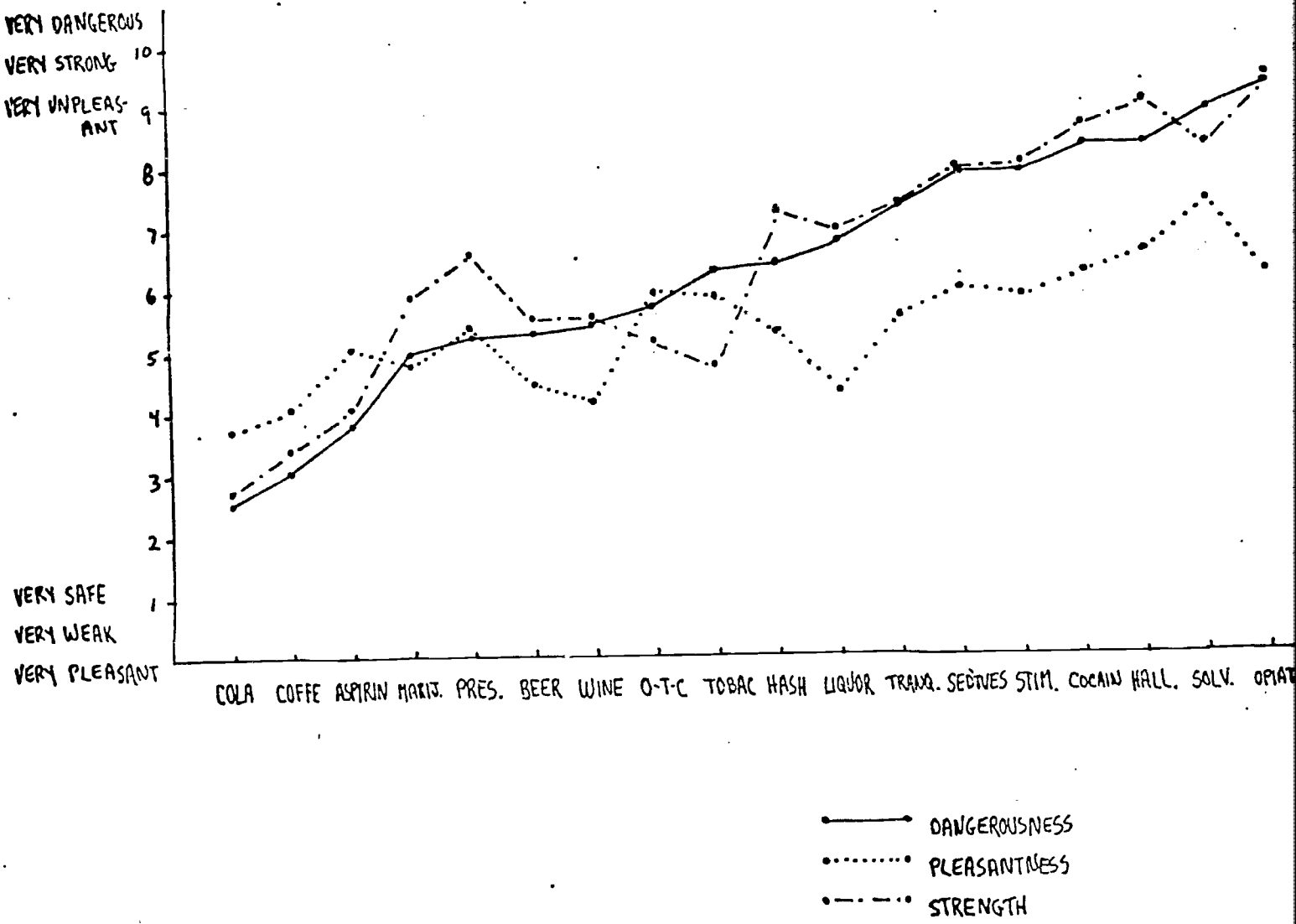

Figure 2

Mean Usage Scores Arranged In Order Of
Increasing (L-R) Perceived Dangerousness

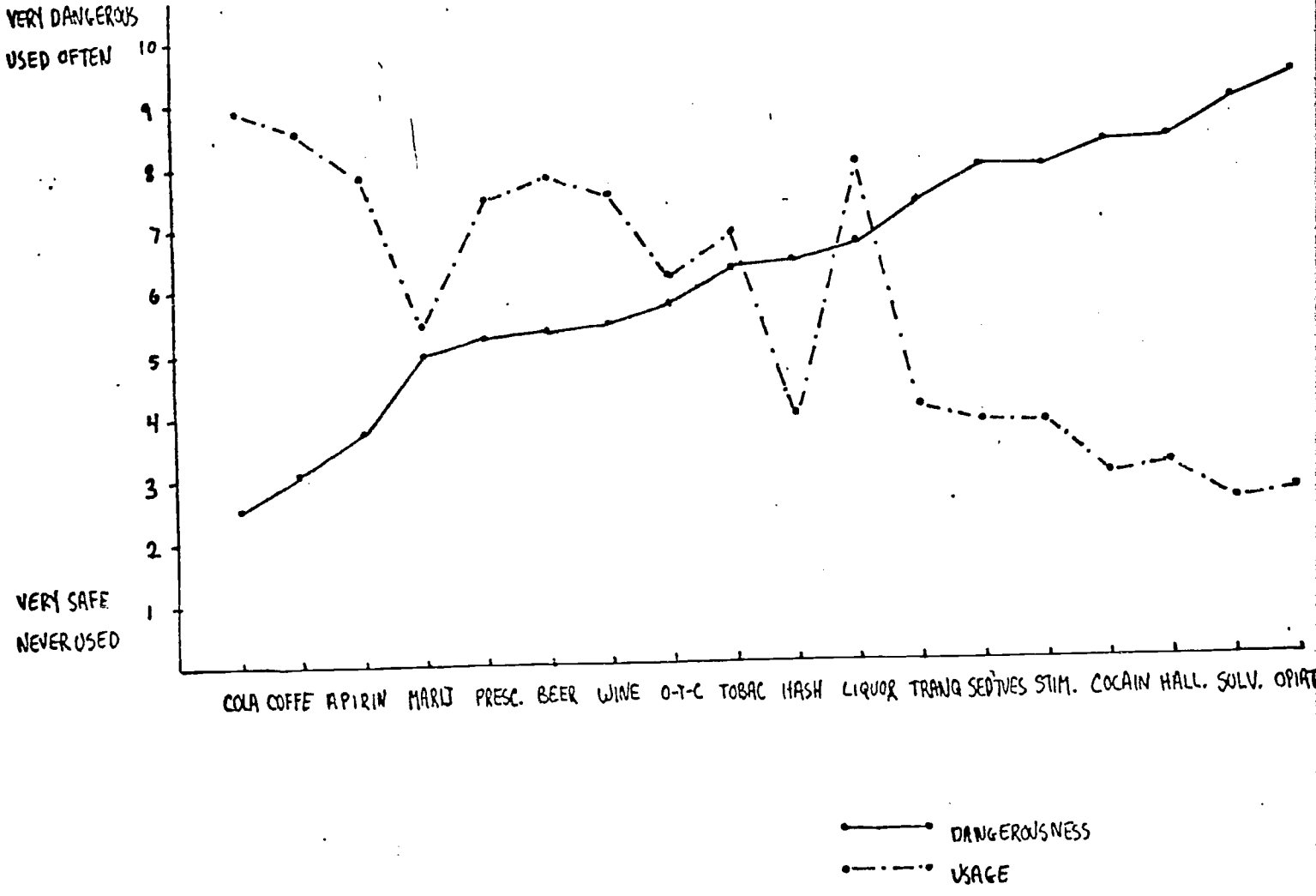

Figure 3

Mean Usage Scores Arranged In Order Of
Increasing (L-R) Perceived Unpleasantness