

TRAITS OF COLLEGE DRINKERS

Thesis for the Degree of M. A.
MICHIGAN STATE UNIVERSITY
William Duane Kukuk
1960



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TRAITS OF COLLEGE DRINKERS

By

WILLIAM DUANE KUKUK

A THESIS

Submitted to the College of Science and Arts of Michigan
State University of Agriculture and Applied
Science in partial fulfillment of the
requirements for the degree of

MASTER OF ARTS

Department of Psychology

1960

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W. D. K.

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ABSTRACT

The purpose of the study was to determine whether light and heavy college drinkers differ with respect to (1) personality, (2) physique, (3) smoking habits, and (4) the drinking habits of their parents. The subjects were 225 Michigan State University male undergraduate students. They were classified into light, moderate, and heavy drinkers on the basis of their replies to a questionnaire.

The means of 22 personality traits measured by inventories were computed for both the heavy and light drinkers. Significant differences were obtained on four of the traits. The heavy drinkers were less orderly, less conforming, less ambitious, and possessed more manifest sexuality than the light drinkers.

Students with dominant endomorphic, mesomorphic, or ectomorphic physiques were determined by utilizing an index of height over cube root of weight, plus subjective estimates of body type. The results indicated that endomorphs were heavier drinkers than the ectomorphs.

The students were also classified into light, medium, and heavy smokers. The heavy smokers were significantly more often heavy drinkers.

The students were also asked to indicate whether both, one, or neither of their parents used alcoholic beverages. Significantly more heavy drinkers came from homes where both parents drank.

William Duane Kukuk

These results with college students were compared and contrasted with the results of studies of alcoholics. While heavy college drinkers do not seem to possess the emotional instability of the alcoholic, they do tend to be relatively disorganized in their daily lives, a quality that alcoholics possess to an extreme degree. The limitations of the methodology of the present study as well as some of its implications for further research were discussed.

Approved



Date

March 18, 1960

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I. INTRODUCTION

The purpose of the present study was to determine the relationship between the verbal reports of drinking behavior among more than 200 Michigan State University students and their scores on 22 personality traits measured by inventories, their body types, their smoking habits, and the drinking habits of their parents.

The author was unable to find any studies directly concerned with the personality trait correlates of drinking behavior in a normal population. Yet, drinking is widespread in our society and has significant economic and personal consequences. McCarthy (14) and Bacon & Straus (1) report that between 60-65% of the people in this country drink some type of alcoholic beverage. McCarthy (13) also reported that the costs of maintaining courts, mental institutions, jails, and welfare departments to care for the victims of excessive drinking are of special concern to the psychologist, for he has a major responsibility for increasing the knowledge of drinking behavior and improving methods of dealing with drinking problems. At present, our knowledge is limited because studies relating drinking to personality and physique factors deal with alcoholics, and these studies cannot be safely assumed to have any relation to normal drinking behavior. These alcoholic studies are later examined in more detail in relation to the characteristics of normal drinkers found in the present study in the hope of clarifying the similarities and differences between the traits of normal drinkers and alcoholics.

II. METHOD AND PROCEDURE

All of the data collected and analyzed in the present study were obtained by questionnaire. The subjects were classified according to the drinking habits as they themselves reported them. Traits were measured by inventories that the students completed. Data on height, weight, dominant body type, smoking habits, and parental drinking habits were likewise obtained from questionnaires filled out by the subjects.

Subjects

The subjects were 225 undergraduate students at Michigan State University enrolled in a large industrial psychology course. They ranged in age from 19 to 39 years, and were enrolled in courses during the fall and spring quarters of the 1958-1959 academic school year. Since only 15 females were enrolled in the course, the present study was limited to male subjects. The numbers of subjects used in testing various relationships are presented in the tables of results. Two samples of subjects were used in the present study. The number of cases found in each sample is presented in Tables 1 and 2. The first sample consisted of the students enrolled in the course during the fall quarter of the 1958-1959 academic year, and the second sample consisted of those students enrolled in the course during the spring quarter of the same academic year.

Classification of Drinkers

The drinking habits of students in the first sample were determined from their responses to the following item: Please indicate the extent to which you use alcoholic beverages:

1. never drink,
2. drink rarely and lightly,
3. drink frequently, but lightly,
4. drink frequently, and sometimes heavily,
5. drink frequently and heavily.

In the course of the analysis, it was felt that the item was ambiguous and that many students might have checked choice #3, whether this choice actually represented their actual drinking behavior or not, in order to appear not too deviant in their drinking habits.

In the second sample, the following item was used: Please describe your habits in the drinking of alcoholic beverages:

1. never drink,
2. occasionally drink light wines and beer,
3. frequently drink light wines and beer,
4. occasionally drink distilled spirits,
5. frequently drink distilled spirits.

Later in the study, references are made to light, medium, and heavy drinkers. These categories are defined as follows:

"heavy drinkers"	those subjects in both samples who selected alternatives 4 and 5 in the drinking item.
"medium drinkers"	those subjects in both samples who selected alternative 3 in the drinking item.
"light drinkers"	those subjects in both samples who selected alternatives 1 and 2 in the drinking item.

A non-drinker category was desired, but there were only 15 subjects who reported that they never drank, so the non-drinkers were included in the light-drinker category. The number of heavy, medium, and light drinkers found in the two samples is presented in Tables 1 and 2.

Measurement of Personality Traits

Twenty-two scales of personality traits developed by Dr. Henry C. Smith were used as the measure of personality. Hershey (5), in an unpublished master's thesis, has discussed the derivation, internal consistency, stability, and factorial independence of these scales. Thirty true-false statements made up each of these scales except the Breadth of Interest scale which included 60 items. A listing of these traits is given on page 6, and a brief description of them is presented in Appendix A.

Table 1

Drinking Classification of Subjects in First Sample

Drinking classification	Number of cases
Heavy drinkers	25
Medium drinkers	25
Light drinkers	50
Total	100

Table 2

Drinking Classification of Subjects in Second Sample

Drinking classification	Number of cases
Heavy drinkers	59
Medium drinkers	28
Light drinkers	38
Total	125

- | | |
|--------------------------|-----------------------|
| 1. activity | 12. artistic values |
| 2. sensory awareness | 13. scientific values |
| 3. sexuality | 14. religious values |
| 4. emotionality | 15. liberalism |
| 5. optimism | 16. ambition |
| 6. expressiveness | 17. orderliness |
| 7. thinking-extroversion | 18. emotional control |
| 8. breadth of interests | 19. gregariousness |
| 9. self-confidence | 20. warmth |
| 10. self-insight | 21. dominance |
| 11. economic values | 22. conformity |

Selected items from the four scales that are most significant with respect to the present study--orderliness, conformity, ambition, and sexuality are presented in Table 3. The complete scales are presented in Appendix D.

Scores on the scales were available for only the first sample. Mean scores were separately computed for light and heavy drinkers. Conventional "t" tests were used to test the significance of the differences between the means of these two groups. These results were checked by comparing the means of the medium drinkers with the heavy drinkers.

Table 3
Selected Items from the Orderliness, Ambition,
Conformity, and Sexuality Scales

Orderliness

1. I am not particularly methodical in my daily life.
2. Once I begin any task, I always finish it.
3. I can always give good reasons for my actions.

Conformity

1. I almost always feel that people approve of me.
2. I take pains not to incur the disapproval of others.
3. I am apt to criticize those who are in authority.
4. I occasionally act contrary to customs.

Ambition

1. I don't especially care for serious people.
2. I prefer the company of fun-loving people.
3. Most of my spare money is used for pleasure.
4. I enjoy taking examinations.

Sexuality

1. I like to become sexually excited.
 2. I occasionally have sexual daydreams.
 3. I have had considerable sex experience.
-

Measurement of Physique

Subjects were instructed to indicate their height to the nearest inch, weight to the nearest pound, and their dominant body type. In relation to body type, the subjects were instructed to check the following item: Please describe your general physique:

1. I am more fat than muscular,
2. My fat and muscles are about equal,
3. I am more muscular than fat,
4. I am about as muscular as thin,
5. I am more thin than muscular.

This item was used with the first sample. An examination of the results, however, indicated a tendency to avoid classifying oneself as being either thin or heavy. Therefore a new item was developed and was presented to the subjects in the second sample. The item was worded in the following manner: Please indicate what you consider to be your dominant body type:

1. I tend to be heavy rather than muscular or thin,
2. I tend to be muscular rather than heavy or thin,
3. I tend to be thin rather than muscular or heavy.

Subjects were classified into Sheldon's system of somatotypes by using a rough approximation of a subject's somatotype. The index of each subject's height divided by the cubed root of his weight was first obtained. Then a condensed table of somatotypes (Appendix B)

corresponding to a given height/ weight index was used to determine the subject's somatotype. Where two or three different somatotypes corresponded to the same index number, the somatotype was determined on the basis of which dominant body type a subject considered himself as having.

The only subjects used in testing for relationships between drinking and physique were those whose number indicated that their body type was at least 5. Thus, a subject having a somatotype of 4-3-2 was not included, but one of 2-2-5 was classified as being an ectomorph and was included. Using this method in determining dominant somatotypes, 35 subjects were found to be dominantly endomorphs, 81 were dominantly mesomorphs, and 17 were dominantly ectomorphs. The chi-square test of independence was used to determine whether there was a significant relationship between drinking and physique.

Smoking Habits

The subjects were instructed to indicate the number of cigarettes they smoked per day. The following item was used to obtain this information: Please indicate the extent to which you use cigarettes:

1. never smoke cigarettes,
2. 1/4 pack or less per day,
3. more than 1/4 pack, less than 1 pack per day

4. 1 to 2 packs per day,
5. more than 2 packs per day.

Subjects selecting alternatives 1 and 2 were called "light smokers"; those selecting alternative 3 were called "medium smokers"; and those selecting alternatives 4 and 5 were called "heavy smokers." Subjects from sample I were used in testing this relationship. The relationship between drinking and smoking was again determined by chi-square.

Drinking Habits of Parents

Subjects from the second sample were used in testing this relationship. They were instructed to select the proper alternative to the following item: Please indicate the drinking habits of your parents:

1. neither of my parents drink,
2. only my father drinks,
3. only my mother drinks,
4. both my parents drink.

The chi-square test of independence was used to determine whether there was a significant relationship between the drinking habits of the students and those of their parents.

III. RESULTS

The relationships found between drinking habits and the various personality measures are presented first; then the relationship between drinking habits and physique; then the relationship between drinking habits and smoking habits; and, finally, the relationship between the drinking habits of the students and those of their parents.

Personality Differences

The mean scores on each of the 22 traits were computed for both the light and heavy drinking groups. Mean differences were computed and the significance of these differences was determined by using a "t" test. These results are summarized in Table 4, in which the trait differences are listed by descending values of t. These differences are discussed, in turn below, with the results of other studies with which they support or conflict.

It is apparent that heavy drinkers differed significantly from light drinkers on four of the traits. The heavy drinkers were higher in manifest sexuality and lower in ambition, conformity, and orderliness than the light drinkers. The same procedure was then undertaken using medium and heavy drinkers in order to check these results. Very similar results were obtained. Medium drinkers were lower in ambition, orderliness, and conformity than the heavy drinkers. Details of these significant results are now presented with the studies of alcoholics which appear to be related to them.

Table 4

Mean Scores, Mean Differences, and "t" Values of Light and Heavy Drinkers on the H. C. S. Personality Inventory

Personality trait	----Mean scores----		Mean difference	"t"
	Heavy drinkers (n = 25)	Light drinkers (n = 50)		
Orderliness	12.3	17.1	-4.8	3.56*
Conformity	13.3	17.4	-4.1	3.42*
Sexuality	19.6	15.9	3.7	3.40*
Ambition	13.2	16.3	-3.1	2.82*
Thinking-extroversion	15.4	16.5	-1.1	1.77
Dominance	20.5	18.6	1.9	1.67
Emotional control	15.2	17.4	-2.2	1.67
Emotionality	16.8	14.1	2.7	1.60
Expressiveness	17.5	15.2	2.3	1.57
Economic values	19.2	18.3	0.9	1.52
Religious values	13.8	15.8	-2.0	1.25
Artistic values	12.0	14.3	-2.3	1.25
Liberalism	19.4	18.3	1.1	1.01
Warmth	14.5	15.7	-1.2	1.00
Breadth of interests	38.4	36.7	1.7	.85
Sensory awareness	18.2	17.6	0.6	.65
Self-insight	16.9	16.5	0.4	.60
Activity	18.6	18.1	0.5	.43
Self-confidence	13.2	13.6	-0.4	.36
Gregariousness	17.5	17.1	0.4	.35
Scientific values	13.3	14.6	-1.3	.31
Optimism	16.8	17.2	-0.4	.29

*P = .01. (The norms of the inventory are presented in Appendix C.)

Lack of Orderliness

In the present study, heavy drinkers scored lower on this trait than did the light drinkers and this was the most significant difference of the personality trait analysis. The "t" value obtained on this trait was significant at the .0005 level.

Similar results have been obtained in alcoholic studies. Strecher & Chambers (19) commented that the alcoholic's personality is not so much defective as it is disorganized. Kaldegg (8) found that heavy drinkers possessed a fear of "going to pieces" and noticed quick incapacitation in the face of personal difficulties. Force (2) states that the alcoholic exhibits low perseverance and is easily distracted from what he is doing. And Lewis (10) reports that when alcoholic patients were asked to describe as well as possible their feelings and motivations, they consistently made such statements as the following: "My whole life seems to have been disordered, a lot of nothingness, and mess and confusion of things."

The apparent consistency of results with normal drinkers and alcoholics suggests the hypothesis that both heavy drinkers and alcoholics lack concrete goals, are deficient in planning, and are disorderly in their daily living. It is also possible that the interaction of personal disorganization and social disorganization may intensify drinking.

Nonconformity

In the present study, heavy drinkers scored significantly

lower on this trait than the light drinkers. The "t" value obtained was significant at the .005 level.

Some results obtained from studies of alcoholics can be speculatively related to this finding. Data obtained from an interdisciplinary study of 46 alcoholic subjects revealed that the majority of alcoholic patients were nonconforming in a schizoid way, which included a basic feeling of estrangement or isolation from people. They appear outgoing and sociable, but beneath lies a pervasive emotional detachment from people. Manson (11) found that many alcoholics expressed feelings of aloneness and poor interpersonal relationships. Schaefer (16), in an unpublished doctoral dissertation, found that alcoholics, in general, were also schizoid. They had low self-esteem, poor external adjustment, and poor social adjustment as revealed by seclusiveness and feelings of rejection. Consistent with this picture, although statistically not significant, is the finding of the present study that the heavy drinkers were more introverted in their thinking.

In a university setting where student drinking is forbidden by university regulations, it seems likely that the nonconformity of the drinkers expresses not so much a schizoid response as it does a desire for independence and a youthful rebellion against restrictions of their freedom of choice. It may be, however, that for a minority, drinking is a symptom of withdrawal rather than rebellion.

Sexuality

The heavy college drinkers scored significantly higher in manifest sexuality than the light drinkers. The "t" value obtained was significant at the .005 level.

A few alcoholic studies lend some indirect support to this finding. Lentz, et al. (9) report that heavy drinkers are more tolerant of breaches of generally accepted moral conduct. They were also more impulsive and affectionate. Schilder (17), in attempting to determine the psychogenesis of alcoholism, found that as drinking progresses, actions occur which show the weakening of inhibitions.

Perhaps the most relevant study is the cross-cultural study of drinking by Horton (6). He found the more frustrated a society was, the more heavily it drank. The simplest explanation of the present result is that single men with high sex drives are more sexually frustrated in a university setting and drink to relieve the feeling of frustration. One would also expect people with a permissive attitude toward drinking to have a somewhat similar attitude toward sex, and would be more ready to admit "sexiness."

Ambition

Heavy drinkers scored significantly lower on this trait than the light drinkers. The obtained "t" value was significant at the .005 level.

This finding is quite consistent with the results of alcoholic studies. Halpern (3), in examining Rorschach protocols of 47 alcoholics

reports that alcoholics do not strive for activity and aggression. They are satisfied with a passive role in the majority of instances. Kaldegg (8), in analyzing Rorschach, Wechsler-Bellevue, and Bender-Gestalt test results of alcoholic patients, found that some of the outstanding common features possessed by the alcoholic in spite of the disparities were: potentialities not fully used, passivity, and lack of drive.

Schaefer (16) has also found that alcoholics tend to have few interests, and quit readily under difficulty. Their plans are unrealistic, and they indulge in autistic thinking as a substitute for achievement.

Psychological conflicts and withdrawal from external interests in reflected in anergic symptoms and in low energy levels.

Hershey's factor analysis of the 22 personality scales used in the present study revealed that Factor F included the traits of ambition and orderliness. This suggests that heavy drinkers may tend to be unambitious because of their lack of concrete goals, their disorderly living habits, and their deficiency in planning.

Emotionality and Emotional Control

Previous alcoholic studies, in general, point out that alcoholic patients possess more emotionality and less emotional control than non-alcoholics. Syme (20) found that the alcoholic has a potential for relatively uncontrolled emotional reactions. Hampton (4), in a psychometric study of alcoholics, also found that alcoholics as a whole possessed emotional instability, with a weak degree of

restraint and poise. Schaefer (16) states that one of the personality types many alcoholics fall into involves over-emotionality, the person being moody, unrestrained, and uncontrolled in his reaction to frustration.

The results of the present study lend only slight statistical support to the conclusion that normal drinkers share the alcoholic's traits of high emotionality and poor emotional control. Hershey's factor analysis revealed that Factor B was identifiable as a "neuroticism" factor. The trait loadings on the factor and the "t" values obtained for these traits in the present study are shown in Table 5.

Table 5

Trait Loadings on the Neuroticism Factor and the "t"
Values for the Traits Found in the Present Study

Trait	Factor loading	"t" value
Lack of emotional control	.86	1.67
Emotionality	.60	1.60
Pessimism	.59	.29
Lack of self-confidence	.57	.36
Lack of orderliness	.54	3.56

Thus, the lack of orderliness was the only trait in this factor that significantly differentiated the heavy drinkers from the light drinkers,

although emotional control and emotionality were suggestive. The heavy drinkers were not significantly more pessimistic or more lacking in self-confidence than the light drinkers. It may be that the lack of orderliness of the heavy drinkers accounts for the other insignificant relationships.

Differences in Physique

Light, medium, and heavy drinkers of both samples classified according to dominant somatotypes were used as subjects in this analysis. Calculation of the chi-square yielded a value which was significant at the .05 level. The results indicated that the ectomorphs were predominantly light drinkers and the endomorphs were heavy drinkers. These results are presented in Table 6.

Table 6

Drinking Habits of Students Classified according
to Dominant Somatotypes (n = 133)

Amount of drinking	-----Dominant somatotypes-----		
	Ectomorphs	Mesomorphs	Endomorphs
Light drinkers	10	28	8
Medium drinkers	4	24	8
Heavy drinkers	3	29	19

These results support Sheldon's hypothesis that the ectomorphic-cerebrotonic type person would be resistant to habits. He stated

specifically that persons high in this trait do not fall into well-established habits like drinking, smoking, or the use of drugs. In an unpublished master's thesis, however, Plath (15) found that the ectomorphs were predominantly heavy smokers. Therefore, on the basis of this finding, one would have predicted that the ectomorphs would also be heavy drinkers. The students might have been more reluctant to classify themselves as heavy drinkers than as heavy smokers, and this might account for the conflicting results obtained. On the other hand, ectomorphs may actually be heavy smokers but light drinkers: endomorphs, light smokers but heavy drinkers.

Drinking and Smoking

Light, medium, and heavy drinkers from Sample 1 classified into light, medium, and heavy smokers were used as subjects in testing this relationship. A chi-square value was obtained which was significant at the .005 level. These results are presented in Table 7. The results support those obtained by McArthur, et al. (12) who found that non-smokers are significantly often (.01) non-drinkers, and heavy smokers are also heavy drinkers.

Drinking Habits of Parents

Heavy, medium, and light drinkers from Sample 2 served as subjects in testing this relationship. A chi-square value was obtained which was significant at the .001 level. These results are presented in Table 8.

Table 7

Relationship between Drinking and Smoking (n = 100)

Amount of drinking	-----Amount of smoking-----		
	Light smokers	Medium smokers	Heavy smokers
Light drinkers	29	10	7
Medium drinkers	10	11	6
Heavy drinkers	9	7	11

Table 8

Relationship between Drinking Habits of the
Students and Their Parents (n = 122)

Drinking habits of parents	-----Drinking habits of students-----		
	Heavy drinkers	Medium drinkers	Light drinkers
Both parents drink	39	8	11
Only one parent drinks	10	8	9
Neither parent drinks	9	12	16

Bacon & Straus (1), in their comprehensive survey of the drinking habits of college students in this country, found that:

1. 92% of the male students of families in which both parents drank, were themselves users;
2. 83% of the students from families where only one parent used alcoholic beverages drank themselves; and
3. only 58% of the students coming from homes where both parents were abstainers, drank themselves.

The results obtained in the present study fully support those of Bacon & Straus.

IV. CONCLUSIONS

According to the present study, the heavy drinkers could be characterized in the following manner: With respect to personality traits, they are low in orderliness, ambition, and conformity, and are high in manifest sexuality. With respect to physique, they are more likely to be endomorphic than light drinkers. It is quite probable that they will also be heavy smokers; and finally, they are likely to have been raised in a family where both of their parents drink.

Previous studies have revealed that alcoholics differ from non-alcoholics on such traits as religious values, emotionality, emotional control, extroversion, and activity. Significant differences were not obtained for these traits in the present study. Differences, however, were all in the expected direction.

Light drinkers, appear to possess the following characteristics according to the present study: They are low in manifest sexuality, and high in ambition, conformity, and orderliness. They tend to be ectomorphic in physique. They are much less likely to engage in smoking than the heavy drinkers, and they were probably raised in a family where neither of the parents drank.

Similarities and Differences between Alcoholics and Heavy College Drinkers

There is a vast difference between the person who is a heavy college drinker and an alcoholic patient. Jellinek (7) claims

that a person usually engages in uncontrolled and excessive drinking for 15-20 years before he becomes a full-blown alcoholic. No student in the present study, of course, has this kind of a drinking background. However, the results of the present study indicate that there is some similarity between the personality of the heavy college drinker and that of the alcoholic patient. Thus, the heavy college drinkers in the present study obtained lower scores on orderliness than the light drinkers. This trait also seems to differentiate successfully between alcoholics and non-alcoholics according to Strecher & Chambers (19) and Lewis (10). Also, numerous alcoholic studies have found that alcoholic patients are less conforming, less ambitious, and more sexually oriented than non-alcoholics. The results obtained in the present study were consistent with these.

On the other hand, alcoholic studies report that alcoholic patients are more emotional, and have less emotional control than non-alcoholics. In the present study, however, light and heavy drinkers did not differ significantly with respect to these two traits, although the results were in the suggested direction. Alcoholics also seem to have less self-esteem and self-confidence than non-alcoholics. The light and heavy drinkers in the present study did not differ with respect to the scores on these traits. Again, however, the differences were in the expected direction.

Limitations of the Study

One weakness of the present study is concerned with the data gathering techniques. Subjects were instructed to write their names on the questionnaire answer sheets. It is felt that students might have been reluctant to classify themselves as heavy drinkers. More serious, this reluctance may have been related to personality traits, thus, a nonconforming and unambitious drinker may have been more ready to admit his drinking than a conforming and ambitious drinker.

Another limitation was related to validity. Measures of the personality traits were obtained for only one of the two samples used, and as a result cross-validation was not possible. By comparing the medium and heavy drinkers, however, at least some checking of results was carried out.

A further limitation concerned the relationship between the drinking habits of students and those of their parents. The subjects were merely instructed to indicate whether their parents drank or not, and no measure of the extent of their parents' drinking was obtained. Also, more refined methods of determining somatotypes might have established the relationship between drinking and physique more strongly.

Implications for Further Research

The general purpose of this study was to determine whether male college students, who are light and heavy drinkers,

differ with respect to personality, physique, smoking habits, and drinking habits of their parents. The findings, in general, strongly suggest that such differences do exist. What implications do these findings have for further research?

If heavy drinkers do actually differ from light drinkers with respect to certain personality traits, these differences might account, in part, for the acquiring of the drinking habit itself. It has also been observed that the personality differences between alcoholics and non-alcoholics are some of the same differences found to exist between light and heavy drinkers. Therefore, it would appear to be a worthwhile undertaking to carry out several studies of a longitudinal nature, measuring at periodical intervals the drinking habits of people, known to have distinct personality differences similar to the ones measured in this study. In this manner, it would be possible to determine whether or not these personality differences are related to an increase in the amount of drinking or not. It would also be possible to notice whether any of the heavy college drinkers having different personality traits from light college drinkers actually became alcoholics or not.

Results obtained from studies of this nature might then be used in developing more adequate techniques in dealing with the alcohol problem at the preventative level, rather than trying to treat patients who have already become alcoholics.

The results concerned with physique differences also present possibilities for further research. Do endomorphs actually tend to drink more heavily than ectomorphs, or were the results obtained in this study just due to coincidence? Studies concerned with drinking and physique measures should be undertaken using more refined techniques in measuring body builds. And if significant differences are again obtained, this might open up a whole new area of research in relation to possible causative factors in drinking.

The results of this study might also be used in a more extensive and complex study. Personality or physique factors, along with racial or ethnic factors, as well as socioeconomic factors could all be included in one study, and the results could then be analyzed by using an analysis of variance design. In this way it would be possible to determine the major, separate, and interaction effects of these variables.

V. SUMMARY

The purpose of this study was to determine whether male college students who drink different amounts of alcoholic beverages differ with respect to: (1) personality, (2) physique, (3) smoking habits, and (4) drinking habits of their parents. The subjects were 225 Michigan State University undergraduate students.

The means of 22 personality traits from an inventory developed by Dr. Henry C. Smith were computed for light and heavy drinking groups. Significant results were obtained of four of the traits. Heavy drinkers were found to be high in manifest sexuality and low in orderliness, conformity, and ambition.

The procedure used to study physique differences involved classifying the subjects into the three somatotype groups, using subjects from both samples. The chi-square value obtained was significant and indicated that there were significantly more heavy drinkers in the endomorph group than in the ectomorph group.

Subjects from Sample 1 were classified as heavy, medium, or light smokers on the basis of a five-choice item dealing with their smoking habits. The results were significant and indicated that a highly significant relationship existed between drinking and smoking.

Subjects were instructed to indicate whether both, one, or neither of their parents drank alcoholic beverages. Results

indicated that significantly more heavy drinkers came from homes where both parents drank, and light drinkers came from homes where neither parent drank.

The results obtained were then compared with those of previous studies, and some limitations of the study were discussed. And in conclusion, implications which these results might have for further research were discussed, pointing out the possibility of attempting longitudinal studies on the drinking habits of young people, as opposed to the present practice of studying confirmed alcoholics. The advantages of carrying out a study like this were also discussed, as well as the possibility of carrying out a more inclusive study involving several factors in one design.

It was hoped that the results of these suggested studies might lead to the discovery of some of the relevant causes of drinking which might be of help in dealing with this serious problem.

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APPENDICES

Appendix A

Summary of the H. C. S. Inventory

- | | | |
|-----|---|--|
| 1. | Activity
Inactive--Active | An attempt to determine the general activity level of the individual. |
| 2. | Sensory Awareness
Unaware--Aware | The degree to which an individual is aware of his surrounds via his sense organs. |
| 3. | Sexuality
Low--High | Interest in members of the opposite sex and activities pertaining thereto. |
| 4. | Emotionality
Unemotional--
Emotional | The degree to which an individual becomes emotionally involved in situations, and with others. |
| 5. | Optimism
Optimism--
Pessimism | The general pattern of responses to situations; is it pessimistic or optimistic? |
| 6. | Expressiveness
Inhibited--
Expressive | The relative amount of freedom or restraint the individual displays in expressing emotion. |
| 7. | Thinking
Introversion
Extroversion | The degree to which an individual is inward or outward oriented in his perception of the environment. |
| 8. | Interests
Narrow--Broad | An attempt to measure an individual's self extension through determining the number of likes in such areas as occupations, school subjects, amusements, activities, and types of people. |
| 9. | Self-Confidence
Low--High | How the individual evaluates his own worth, adequacy, and competence. |
| 10. | Self-Insight
Low--High | A measure scored on the basis of total number of unpleasant traits, which a person says describes him, plus total number of pleasant traits which he says do not describe him. |

- | | | |
|-----|---|--|
| 11. | Economic Values
High--Low | Whether the individual is primarily interested in what is useful; pre-occupied with affairs of the business world. |
| 12. | Artistic Values
Low--High | Measure of interest in form and harmony, beauty, and aesthetic activities. |
| 13. | Scientific Values
Low--High | Relative degree of interest in scientific endeavors and scientific method. |
| 14. | Religious Values
Low--High | Measure of the intensity and confidence of the individual's belief in God, in the supernatural, and in divine intervention. |
| 15. | Liberalism
Conservative--
Liberal | Degree of liberalism and conservatism the individual displays in relation to a number of issues. |
| 16. | Ambition
Unambitious
Ambitious | Whether the individual desires to do things as rapidly and as well as possible; whether he makes intense, prolonged, and repeated efforts to accomplish difficult things; and whether he enjoys competition. |
| 17. | Orderliness
Orderly--
Unorderly | Attempts to measure some aspects of Cattell's "Positive vs. Immature Dependent Character," e. g. Consistently Ordered vs. Relaxed; Conscientious vs. Undependable, etc. |
| 18. | Emotional Control
Uncontrolled--
Controlled | What are the individual's reactions to emotional emergencies and frustrating situations. |
| 19. | Gregariousness
Unsociable
Sociable | Measures need for affiliation. Not to be confused with "sociability" which implies social skill, social values, interests in intimate friendships, etc. |
| 20. | Warmth
Cold--Warm | The degree to which an individual likes, accepts, approves, feels close to, and wants to help others. |

- | | | |
|-----|---|---|
| 21. | Dominance
Submissive--
Dominant | Measures degree of dominance
through items related to dominance
feelings, behavior, and leadership. |
| 22. | Conformity
Nonconformity--
Conformity | Attempts to differentiate conformists
from non-conformists. |

INDEX OF HEIGHT OVER CUBE ROOT OF WEIGHT*

INDEX	Height in Inches														
	60"	61"	62"	63"	64"	65"	66"	67"	68"	69"	70"	71"	72"	73"	74"
14.7	68	71	75	78	82	86	91	95	99	104	108	113	118	123	128
14.6	69	73	77	80	84	88	92	97	101	106	110	115	120	125	130
14.5	71	74	78	82	86	90	94	99	103	108	113	118	122	128	133
14.4	73	76	80	84	88	92	96	101	105	110	115	120	125	130	136
14.3	74	78	82	86	90	94	99	103	108	113	118	123	128	133	139
14.2	76	80	83	88	92	96	101	105	110	115	120	125	130	136	141
14.1	77	81	85	89	94	98	103	107	113	117	122	128	133	138	145
14.0	79	83	87	91	95	100	104	110	115	120	125	130	136	142	147
13.9	81	85	89	93	98	103	107	112	117	122	128	133	139	145	151
13.8	82	86	91	95	100	104	109	115	120	125	130	137	142	148	154
13.7	84	88	93	97	102	107	112	117	123	128	133	139	146	151	157
13.6	86	90	94	99	104	110	114	120	125	130	137	142	148	155	161
13.5	88	92	97	102	106	111	117	122	128	133	139	146	151	158	165
13.4	90	94	1--	104	110	114	120	125	131	137	142	149	155	162	168
13.3	92	97	101	106	111	117	122	128	134	140	145	152	158	165	172
13.2	94	99	104	109	114	119	125	131	137	142	149	156	163	170	177
13.1	96	101	106	111	117	122	128	134	140	146	152	159	166	174	180
13.0	97	103	109	114	119	125	131	137	144	149	156	163	170	178	184
12.9	101	106	111	116	122	128	134	141	147	153	160	166	174	181	189
12.8	103	109	113	119	125	131	139	144	151	157	164	171	178	185	193
12.7	105	111	116	122	128	134	141	147	154	161	167	175	182	190	198
12.6	108	113	119	125	131	137	144	151	157	165	172	179	187	195	202
12.5	111	117	122	128	134	141	147	154	161	168	176	183	191	199	207
12.4	113	119	125	131	137	144	151	157	165	172	179	187	196	204	213
12.3	116	122	128	133	141	147	154	162	169	177	184	192	200	210	218
12.2	119	125	131	137	145	151	158	165	174	181	189	197	205	214	224
12.1	121	128	134	141	148	155	163	170	178	185	193	202	211	220	229
12.0	125	131	138	145	152	159	166	174	182	190	198	207	216	226	235
11.9	128	135	141	149	156	163	170	178	187	195	203	213	221	231	241
11.8	131	138	145	152	159	167	175	183	191	199	209	218	227	237	247
11.7	135	141	149	156	164	171	179	188	196	205	214	224	233	243	254
11.6	138	146	152	160	168	176	184	193	201	211	220	229	238	250	260
11.5	141	149	157	165	172	180	189	198	207	216	226	236	245	256	267
11.4	146	153	161	168	178	185	194	203	212	221	231	242	252	263	273
11.3	150	158	165	174	181	190	199	209	218	228	237	248	258	270	280
11.2	154	162	170	178	187	195	204	214	225	234	244	255	266	277	289

*NOTE: Follow down the proper height column to the proper weight. The correct index is then found in the left hand column.

TABLE II
Somatotypes corresponding to height-weight index*

INDEX	SOMATOTYPE	INDEX	SOMATOTYPE
14.7	117	12.9	442---553---353
14.6	127	12.8	352---522
14.5	127	12.7	352---532
14.5	217	12.6	361---513
14.3	126	12.5	171---623
14.2	216	12.4	542---361
14.1	226	12.3	632---271
14.0	236	12.2	632---271
13.9	225	12.1	461---631
13.8	325	12.0	631---551
13.7	335	11.9	631
13.6	335	11.8	721
13.5	334---244---154	11.7	721
13.4	334---254---424	11.6	721
13.3	514---434	11.5	721
13.2	343---444---433	11.4	731
13.1	443---354---524	11.3	711
13.0	353---534	11.2	711

NOTE: Pick somatotype opposite index corresponding to the component judged to be dominant.

• • • • •

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in financial matters. The text suggests that organizations should implement robust systems to track every detail, from procurement to sales, to ensure that all data is reliable and accessible.

2. The second part of the document focuses on the role of technology in modern business operations. It highlights how digital tools and software can streamline processes, reduce errors, and improve overall efficiency. The author argues that investing in technology is not just a luxury but a necessity for staying competitive in today's fast-paced market. Examples of various software solutions and their benefits are provided to illustrate this point.

3. The third part of the document addresses the challenges of managing a large and diverse workforce. It discusses the importance of clear communication, effective leadership, and the implementation of fair policies. The text suggests that managers should focus on creating a positive work environment where employees feel valued and motivated. Strategies for conflict resolution and team building are also outlined to help address common workplace issues.

4. The fourth part of the document explores the impact of external factors on business performance. It discusses how economic conditions, market trends, and regulatory changes can influence an organization's success. The author advises businesses to stay informed about these external factors and to develop flexible strategies that can adapt to changing circumstances. This proactive approach is presented as a key to long-term sustainability and growth.

5. The final part of the document provides a summary of the key points discussed and offers some concluding thoughts. It reiterates the importance of maintaining accurate records, leveraging technology, managing the workforce effectively, and staying adaptable to external changes. The author concludes by encouraging businesses to embrace a continuous improvement mindset, where learning from experience and staying open to new ideas are essential for success.

R.C. Smith 37
April 1959

Appendix C

[illegible]

Appendix D

Orderliness Scale

1. I am not particularly methodical in my daily life.
2. Whenever I have to undertake a job I make out a careful plan of procedure.
3. I have arranged my life so that it runs very smoothly.
4. I sometimes find it difficult to pin myself down to one line of thought for a long time.
5. I sometimes make useless moves as I go about my work.
6. I generally go from one thing to another in my daily life without a great deal of planning.
7. My desires are occasionally at war with one another.
8. I am extremely systematic in caring for my personal property.
9. Some of my tastes change rather rapidly.
10. I am guided in all my conduct by firm principles.
11. I find that a well-ordered mode of life with regular hours and an established routine is most congenial to me.
12. I sometimes start new projects without waiting to finish up everything that I have been doing.
13. I find it rather hard to keep to a rigid routine.
14. I find that my minor likes and dislikes change rather frequently.
15. I am quick to discard the old and accept the new: new fashions, new methods, and new ideas.
16. If I start working on a puzzle, I always stick to it until it is solved.
17. I always finish one task before taking on others.
18. Once I begin any task, I always finish it.

19. It is occasionally difficult for me to keep my mind on one thing for a long time.
20. I find it difficult to keep my mind on one detail for very long.
21. I am very insistent on having all my written work extremely neat and well organized.
22. I keep my workplace extremely neat and very orderly.
23. I like to keep all my letters and other papers neatly arranged and filed.
24. I like to have my meals organized and a definite time set aside for eating.
25. I like to have my life so arranged that it runs smoothly and without much change in plans.
26. I like to make a very careful plan before starting in to do anything.
27. If I take a trip, I like to consider it as an adventure rather than to have everything planned in advance.
28. I have some difficulty in concentrating my thoughts on one thing for long.
29. My minor interests change rather rapidly.
30. I can always give good reasons for my actions.

Conformity Scale

1. I seldom do anything for which anyone could reproach me.
2. I control my sexual impulses by instituting prohibitions and restrictions.
3. I carry a very strict conscience about with me wherever I go.
4. I have an extremely strong sense of responsibility about my duties.
5. I think that I have a more rigorous standard of right and wrong than most people.

6. I almost always feel that people approve of me.
7. I generally accept suggestions rather than insist on working things out in my own way.
8. In matters of conduct I conform very closely to custom.
9. Let a man keep the law, any law, and his way will be strewn with satisfaction.
10. We acquire the highest form of freedom when our wishes conform to the will of society.
11. I sometimes express unconventional opinions to people who are likely to disapprove of them.
12. Before I do something I am apt to consider whether my friends will blame me for it.
13. I take pains not to incur the disapproval of others.
14. I consider the close observance of social customs and manners an essential aspect of life.
15. I occasionally act contrary to customs.
16. I go my own way somewhat regardless of the opinions of others.
17. I sometimes disregard minor rules and regulations that hamper my freedom.
18. I am apt to criticize those who are in authority.
19. I believe that the individualist is the man who is most likely to discover the best road to a new future.
20. I am strongly opposed to accepting anything just because an authority says it is so.
21. Sometimes I rather enjoy doing things I'm not supposed to do.
22. At times I have been so entertained by the cleverness of a crook that I have hoped he would get away with it.
23. Compared to your own self-respect, the respect of others means very little.

24. I am a little careless about my manner of dress.
25. I am in favor of strict enforcement of all laws.
26. The trouble with many people is that they don't take things seriously enough.
27. I like to work on some problems even when there is no clear-cut unambiguous answer.
28. Science should have as much to say about moral values as religion does.
29. Some of my friends think that my ideas are impractical, if not a bit wild.
30. I avoid situations where I am expected to conform very closely to conventional standards.

Ambition Scale

1. I particularly like to work at tasks that require great effort.
2. I see life as a constant series of problems which must be solved.
3. I can become so absorbed in solving a problem that I forget everything.
4. I am driven to ever greater efforts by the challenge of unsolved social problems.
5. I feel that nothing in life is a substitute for the solving of great social problems.
6. I feel that my future place and self respect depend upon my solving some important problem.
7. I set very difficult goals for myself.
8. I generally seek whatever makes me feel most cheerful here and now.
9. I cultivate an easy-going attitude toward life.
10. I prefer the company of fun-loving people.

11. I believe that I have the disposition of a "man of pleasure."
12. I am extremely ambitious.
13. I enjoy work more than play.
14. I believe that when a man is no longer seriously trying to do better he is half dead already.
15. No one can demand from me as much as I demand from myself.
16. I am guided in most of my decisions by strong ambitions.
17. I feel that friendship is more important in life than anything else.
18. I like to be with people who don't take life too seriously.
19. When I am in a group discussion, my mind sometimes wanders from the problem at hand.
20. Most of my spare money is used for pleasure.
21. I believe in getting as much fun as I can out of life.
22. I'd give up a great many things rather than miss a wonderful party.
23. I greatly enjoy studying the history of social problems to find out what has been done about them in the past.
24. I would really work hard to find out why children resemble their parents in some ways, yet are different in others.
25. I enjoy taking examinations.
26. In meetings I think it is generally better to go along with a chairman's decision rather than to start a fuss.
27. I would rather see a musical comedy than a documentary film.
28. I would rather read a best seller than a book of an academic nature.
29. I don't especially care for serious people.
30. I occasionally neglect serious things in order to have a good time.

Sexuality Scale

1. I would rather go out with attractive persons of the opposite sex than do almost anything else.
2. I like to become sexually excited.
3. It is extremely important to me that I be regarded as physically attractive by those of the opposite sex.
4. I like to participate in discussions about sex and sexual activities.
5. I like to listen to jokes concerning sex.
6. I occasionally spend time thinking about sexual matters.
7. I feel that my sexual desires are almost as strong as my ambition.
8. I occasionally have sexual daydreams.
9. I have had considerable sex experience.
10. I always prefer to spend my social evenings with members of the opposite sex rather than my own sex.
11. I am rather modest about sexual matters.
12. I am somewhat indifferent concerning sexual matters.
13. In my first years of high school, I went out frequently with members of the opposite sex.
14. I never engaged in petting during high school.
15. I believe I am a rather passionate person.
16. I have frequently refused to engage in petting and kissing when a person of the opposite sex wanted to.
17. I think that obtaining sexual satisfaction is not a very important thing in my life.
18. I had my first date after I was 15.
19. I seldom asked questions about sex when I was a child.

20. My first sex curiosity arose sometime after I was 12.
21. I became sexually excited a little less than the average person of my age.
22. I seldom become sexually excited.
23. I very rarely tell jokes in which sex plays a major part.
24. I think that the importance of sex is often overemphasized in our society.
25. I am extremely particular about the members of the opposite sex with whom I associate.
26. I enjoy the company of almost all members of the opposite sex.
27. I think that it is much more important to learn to control sexual impulses than to express them.
28. I believe that everybody would be happier if both men and women had more sexual freedom.
29. The control of my sex desires is a fairly difficult problem for me.
30. I will have no difficulty controlling my sex desires until I am married.

ROOM USE ONLY

JUL 24 1961

SEP 13 1961

~~DEC 1961~~

JAN 29 1964

~~MAR 1964~~

~~APR 1964~~

~~MAY 1964~~

DEC 18 1964

~~27 1965~~

~~JAN 1966~~

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