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A CORRELATIONAL STUDY OF THE CLYDE MOOD SCALE AND  
THE MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

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THE MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

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## ABSTRACT

The Minnesota Multiphasic Personality Inventory (MMPI) and the Clyde Mood Scale (CMS) were administered to 100 psychiatric inpatients and 63 normal subjects in an attempt to investigate the utility of the CMS. The Pearson coefficient of correlation was obtained between all the various scales of the two instruments. Several significant correlations were obtained for the patients and only a few for the controls. However, there was very little pattern evident when the correlations for the different groups were examined. Only nine significant correlations involving clinical MMPI scales were common to all subjects. Most of the CMS scales involved were correlated with several MMPI scales, and did not discriminate between them. There appears to be a polarization of the CMS scales: the "socially desirable" group correlating negatively with MMPI pathology, and the "socially undesirable" group correlating positively with MMPI pathology. There also appear to be important differences between the way patients and controls, and also between male and female patients, respond to the CMS.

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## INTRODUCTION

The current emphasis on investigating such topics as arousal, stress, emotional appeals and drug effects suggests a need for standardized instruments for measuring the current affective status, or mood of a person, especially psychiatric patients (Tomkins, 1965). The Clyde Mood Scale (CMS) (Clyde, 1963) is such an instrument which is used routinely in psychiatric settings, even though insufficient research has been done to establish it as a valid test. This study will investigate the relationship between the scales of the CMS and those of the Minnesota Multiphasic Personality Inventory (MMPI) (Hathaway and McKinley, 1943).

The CMS is an adjective check list of 133 items related to mood which has been used to assess the effects of drugs in studies with psychiatric patients (Clyde, 1963; Hollister, *et al.*, 1968; Rickels and Clyde, 1967). A copy of the CMS and instructions are included in the appendix. During construction of the CMS a study of 500 self-ratings done by a variety of normal subjects and psychiatric patients, using the original list of items, was conducted. The items were then divided into three groups, each group was intercorrelated, principal axes computed and rotated by normalized varimax. The 133 items which had highest factor loadings were retained for the present scale (Clyde, 1963).

At Broughton Hospital, Morganton, North Carolina where the present study was conducted, the CMS is given in the

admission battery of psychological tests in order to establish local norms, which will be useful for later drug studies.

The MMPI is an inventory which provides a personality profile consisting of four validity scales and nine clinical scales. The scales were developed by administering the original group of statements to approximately 800 psychiatric patients and 1,254 nonpatients (Hathaway and McKinley, 1943). Statements which consistently discriminated clinically diagnosed schizophrenics from other patients and also from nonpatients were retained for the Sc scale. The other scales were constructed from items selected by the same process. A copy of the MMPI instructions are included in the appendix.

Very little work has been done on assessing the validity and reliability and on establishing norms for the CMS. The author of the CMS (Clyde, 1963) conducted a study which used the CMS as one measure of the effects of phenothiazines upon the emotions and behavior of the psychiatric patients involved. The drugs reportedly made the patients more friendly, less aggressive and more clear-thinking. He reported that the CMS correctly differentiated between the drug group and placebo group in 80% of the cases. In the same study, the Inpatient Multidimensional Psychiatric Scale (Lorr, 1953) correctly classified 76% as either drug or placebo; and the Ward Behavior Rating Scale (Burdock, 1960), 75%. The Inpatient Multidimensional Psychiatric Rating Scale is a schedule for rating (10 scores) the

interview behavior of severely disturbed psychiatric patients. The Ward Behavior Rating Scale is designed to measure severity of illness and as an index of response to treatment for mental patients, both new admissions and chronic residents. It consists of 150 items reflecting observable units of behavior such as affect, communication, and symptoms.

As evidence of the reliability of the CMS, Clyde cites the correlations between raters using it in the study (from 0.41 to 0.91, all of which are significant). Other authors (Borgatta, 1961; Lorr, Daston & Smith, 1967) who have used mood scales of personality have considered pre- to posttest score changes as providing evidence for the validity of the scales. The only other validity study of the CMS which is reported is one by Fisher et al. (1969). This study used the CMS to measure mood changes before and during hypnosis in one group and before and after T-group training in a second group. The authors concluded that the CMS showed convergent and discriminant validity under the emotionally involved conditions with the T-group. They did not find a significant difference, however, under the nonemotionally involved conditions with the hypnosis group.

The CMS is widely used in psychopharmacological drug studies. One such study reported "decreased scores for Aggression and Clear-thinking" as a result of the use of meprobamate (Hollister and Clyde, 1968). However, confusion exists in interpretation of the score changes. Researchers

typically obtain baseline performance on the CMS prior to drug administration and then compare it to performance while under the influence of the drug. In addition to the influence of the drug, score changes may also be mediated by situational factors. Expectations about the effect the drug should have on him, ideas about what the experimenter is hoping to find, and events in the environment of the patient during treatment may alter the mood of the patient.

A typical study used control patients administered either standard drugs or placebos (Rickels and Clyde, 1967). The difference in score change between the two groups was interpreted as being the result of the influence of the drug. The ability of the CMS to differentiate between the experimental and control groups was taken as evidence of its validity.

One method of making the scores on the scales of the CMS more meaningful is to compare them to some other personality test for which an acceptable level of validity and reliability has been demonstrated. The present study compared the subjects' scores on the scales of the CMS to those of their MMPI.

The null hypothesis predicted no significant correlation between the scales of the two instruments. This hypothesis was made for two reasons. One is the effects of social desirability which have been seen on other instruments. It is generally accepted that the responses a person makes

on a personality test may be influenced by his desire, either consciously or unconsciously, to present a socially favorable picture of himself. He may deny or avoid revealing attributes which he feels others would see as undesirable, or he may claim desirable attributes which he does not possess.

Many studies have shown that the MMPI itself is not impervious to the effects of social desirability and other response sets (Heilbrun, 1964). However, it is suggested that social desirability will affect CMS scores more than those of the MMPI because the MMPI has the validity scales which reveal (the T, L and F scales) and compensate (the K scale) for this bias (Leef and Lamb, 1969; Edwards and Horst, 1953). Also, the CMS is not a subtle instrument and socially desirable answers are readily apparent to the person taking the test. If, in fact, it is demonstrated that the scores on the Clyde Mood are very vulnerable to social desirability set, then the drug studies may be measuring a change in perception of what is socially desirable or acceptable (as often happens with persons under the influence of alcohol) rather than a change in a personality dimension such as "Friendliness".

It is further suggested that the difference between trait-related responses and state-related responses (Cattell and Scheier, 1961) will lessen any relationships between the scales on the two instruments. The CMS, since it was designed as a measure of mood, which is usually situational, should

be more sensitive to temporary states of the patients. The MMPI on the other hand, which is more subtle, much longer and has the validity scales, should be less affected by state factors, hence reflecting more permanent, internalized personality traits.

## METHOD

### Subjects

Experimental subjects for the study were 42 male and 58 female psychiatric inpatients. There were 32 Caucasian males and 10 Negro males between the ages of 17 and 60 with a mean age of 35. The females consisted of 43 Caucasians and 15 Negroes between the ages of 17 and 63 with a mean age of 40. All patients entering the admission wards for geographical units A, B, C, D and F at Broughton during the period from January, 1972 to August, 1973 were included in the study, except for the ones who were rejected for reasons mentioned below. Most had not been diagnosed at the time of testing. Some carried a tentative diagnosis.

The CMS and the MMPI were always given on the same afternoon, in that order. Only patients scoring fifth grade reading level or higher on the Basic Reading and Word Test (Sparks, et al., 1968) were given the CMS and MMPI. The general level of functioning during the morning session (described later) was used to identify patients who were confused, out of contact, hallucinating, or incapable of following directions, and hence not capable of completing the CMS and MMPI. Also, no patients were included who were

undergoing medication changes, or who were receiving electroconvulsive therapy.

Normal subjects were hospital staff members and other volunteers from the local area. There were 22 Caucasian males and five Negro males between the ages of 20 and 52, with a mean age of 32. The female group consisted of 28 Caucasians and eight Negroes between the ages of 20 and 60 with a mean age of 36.

#### Instruments

The Clyde Mood Scale and the Minnesota Multiphasic Personality Inventory were the two instruments used in the study.

The CMS was constructed from adjectives related to mood taken from other adjective check lists and from research done on reports of numerous drug studies. It consists of a list of 133 adjectives followed by columns labeled: "Not at all", "A little", "Quite a bit" and "Extremely". The patient is instructed to check the column which most nearly describes the degree to which each adjective applies to him today.

When the CMS is scored each item is given a weighted score, depending upon which column was checked for the item. All these weighted scores are then placed into one of six categories: Friendly, Energetic, Clear-Thinking, Aggressive, Jittery, or Depressed. The weighted scores are then summed for each category, and a percentile score is calculated.

The MMPI is a self-administering personality inventory consisting of 566 descriptive statements such as "I work under a great deal of tension". The subject is instructed to mark each statement true or false, indicating whether he feels the statement applies to him.

When the MMPI is scored each statement which is answered in the pathological direction ("true" for some statements, "false" for others) will be included in the score for one or more of the 14 scales. The scales used in this study are the nine original clinical scales plus Si, which has since been added, and four validity scales. The 10 clinical scales are: Hs (hypochondriasis), D (depression), Hy (hysteria), Pd (psychopathic deviate), Mf (masculinity-femininity), Pa (paranoia), Pt (psychasthenia), Sc (schizophrenia), Ma (hypomania) and Si (social introversion). The four validity scales are: ? (cannot say) which is the number of items not answered, L (lie), F (validity) and K (correction for the effects of defensiveness).

#### Procedure

The subjects were tested in a group during the first week after admission. During the morning session they were given the Basic Reading and Word Test, the Shipley-Hartford IQ Test (Shipley, 1946) and the Eysenck Personality Inventory (Eysenck, 1963). The CMS and the MMPI were given during the afternoon session. The Pearson coefficient of correlation was computed for all possible combinations of the scales of

the two instruments on a Univac 70 Computer. Only coefficients which were significant at either the .01 or .05 level or beyond were reported. Correlations for the K-corrected and the uncorrected MMPI scales were reported separately. Correlations were reported separately for patients and controls, and for males and females. Any significant correlations demonstrated among the patient's test scores were investigated in the control subjects' scores to see if the same relationships obtained.

RESULTS AND DISCUSSION

The null hypothesis of no correlation between the scales of the two instruments must be rejected. Several correlations do appear, especially among the patients; but close examination reveals that most of the CMS scales involved are correlated with several MMPI scales. The CMS scales apparently have very little discriminative power as far as any predictions about individual MMPI scales are concerned.

Most of the significant correlations appear in the patient group, both male and female (Tables 1 and 2). Very little consistency is seen in the pattern between patients, male and female, or between patients and normals. There are only nine correlations involving clinical MMPI scales which are common to both male and female patients (Table 3). In only one instance (Friendly and Psychasthenia) male

Table 1  
Significant Correlations (Pearson Product-Moment) Found Between the Scales of the Clyde Mood Scale and the Minnesota Multiphasic Personality Inventory

	Male Patients (N = 42)																		
	?	L	F	K	Hs	D	Hy	Pd+K	Mf	Pa	Pt+K	Sc+K	Ma+K	SI	Pd	Pt	Sc	Ma	
C Friendly																			
M Energetic			-36																
S Clear-Thinking																			
a Aggressive			35							33	40*	41*	54*			33	38	41*	
e Jittery																			38
s Depressed			45*	-57*	39	34	33	36	36	62*	42*	43*				64*	55*	39	

\* Significant at .01 level. Others significant at .05 level. Decimals omitted.





patients) was a correlation present with a K-corrected scale (McKinley, Hathaway & Meehl, 1948) but not with the uncorrected scale.

An interesting pattern emerges upon examination of Tables 1, 2, 3 and 5. It will be noted that all the correlations involving CMS scales Friendly, Energetic and Clear-Thinking are negative, for both male and female patients. Patients whose MMPI clinical scales revealed more pathology (elevation of clinical scale(s) above a T score of 70) scored lower on these CMS scales. It should be noted that these CMS scales reflect personality characteristics which would be considered desirable by society. Tables 4 and 6, which show all the significant correlations among the various CMS scales, reveal that the three above scales are positively correlated with each other.

On the other hand, all of the correlations between CMS scales Jittery and Depressed and the MMPI clinical scales are positive, for both male and female patients. Patients whose MMPI clinical scales revealed more pathology tended to score high on Jittery and Depressed. These two CMS scales reflect personality characteristics which would be considered undesirable by society, and are themselves positively correlated as shown by Tables 4 and 6.

Tables 4 and 6 also show that Depressed, the most discriminative scale from the "undesirable" CMS group (Jittery and Depressed), is negatively correlated with the

Table 4  
Correlations Among the CMS Scales for All Patients (N = 100)

	Friendly	Energetic	Clear-Thinking	Aggressive	Jittery	Depressed
Friendly						
M S Energetic	+72*					
S Clear-Thinking	+61*	+59*				
a l Aggressive						
e s Jittery						
Depressed		-38*	-22	+32*	+35*	

\* Significant at the .01 level. Others significant at the .05 level. Decimals omitted.

Table 5

## Significant Correlations (Pearson Product-Moment) Found Between the Scales of the Clyde Mood Scale and the Minnesota Multiphasic Personality Inventory

All Patients Combined (N = 100)

	MMPI Scales																	
	? L	F	K	Hs	D	Hy	Pd+K	Mf	Pa	Pt+K	Sc+K	Ma+K	SI	Pd	Pt	Sc	Ma	
C Friendly																		
M S Energetic	-26*			-31*	-43*	-26	-27*		-25	-38*	-33*		-38*	-24	-27*	-30*		
S Clear-Thinking				-29*		-24			-23				-25	-22				
a l Aggressive		27*								23	38*					22	29*	
e s Jittery		26*	-30*	22				21		24					31*	35*		
Depressed	27*	22	32*	-40*	33*	36*	31	27*	30*	57*	40*	23	34*	33*	60	47*	28*	

\* Significant at the .01 level. Others significant at the .05 level. Decimals omitted.

Table 6

## Correlations Among the CMS Scales for All Subjects (N = 163)

	Friendly	Energetic	Clear-Thinking	Aggressive	Jittery	Depressed
C Friendly						
M S Energetic	72*					
S Clear-Thinking	59*	60*				
a l Aggressive	17	20	20			
e s Jittery						
Depressed	-28*	-39*	-28*	24*	36*	

\* Significant at the .01 level. Others significant at the .05 level. Decimals omitted.

CMS scales comprising the "desirable" group (Friendly, Energetic and Clear-Thinking). Therefore, for the patients, we find the "desirable" group of CMS scales correlated negatively with generalized MMPI pathology, and the "undesirable" CMS scales correlated positively with generalized MMPI pathology.

The contribution of the remaining CMS scale, Aggressive, is not clear. For the female patients (Table 2), the Aggressive CMS scale is not correlated with any MMPI scales. Possibly, the female patients were uncertain about whether aggressiveness is a desirable trait for women, so they avoided either extreme on this scale. For the male patients (Table 1), Aggressive seemed to fall into the group with Jittery and Depressed.

One finding common to both the male patients and normal males was a positive correlation between the CMS Aggressive scale and the MMPI F scale. Apparently, only men who are aggressive (or fancy themselves as being aggressive) are willing to try to "fake good" on the MMPI.

Another strong positive correlation involving Aggressive (CMS) was seen for a group of male patients (Table 1) who scored high on Aggressive and also high on Ma and Pa (MMPI). Apparently, the male patients who tended toward being manic and paranoid were aggressive enough to self-disclose rather than try to conceal their manic or paranoid or aggressive tendencies. A history of behaving

with few inhibitions and consequently getting themselves into situations which elicited unfavorable reactions from others may have contributed to their paranoid makeup. Or, conversely, their paranoid reactions may have given rise to their aggression. A paranoid person probably would build up a history of frustration in social relationships which could lead to an abandonment of conventional restraints in relations with others. The comparatively large standard deviations for Ma and Pa also may have contributed to the strength of these correlations. Aggressive (CMS) was also positively correlated with elevations (in the pathological direction) on Psychasthenia and Schizophrenia on the MMPI, further suggesting that this group of male patients was self-disclosing.

No significant correlations were found involving the MMPI Lie Scale for patients, so no judgement can be made about whether they were being truthful or self-disclosing on that basis. Apparently, the CMS is not useful in predicting whether patients will lie on the MMPI. However, for the male patients, CMS scales Jittery and Depressed are negatively correlated with MMPI scale K (defensiveness), indicating the men scoring high on these "undesirable" scales were not defensive, and may well have been self-disclosing. A similar finding was reported in a study correlating psychiatric patients' self-ratings with their MMPI profiles (Suslak, 1964).



which carries over into the manic state. A positive correlation might have been expected between Aggressive and Masculinity-femininity, since men who exhibit the more effeminate characteristics reflected by the Mf scale typically are not seen as very aggressive. The comparatively small standard deviation for Masculinity-femininity may partially account for the absence of a correlation. Also, there was no negative correlation between Clear-Thinking (CMS) and Schizophrenia (MMPI). People who have the disorganized thought processes reflected by elevation on the Sc scale would be expected to score low on Clear-Thinking.

There were several correlations for the female patients which were in the expected direction. Friendly (CMS) was negatively correlated with Psychopathic deviate, Social introversion, and Depression (MMPI). Depressed was positively correlated with Depression (MMPI) and with Psychasthenia. It is not surprising that the MMPI Depression scale, since it is vulnerable to the influence of the mood of the examinee, is correlated with the CMS, which is designed to measure mood. Depressed (CMS) was also positively correlated with Hysteria as might be expected, since Hysteria is one of the MMPI neurotic scales, and depression is usually a component of neuroticism.

Some other correlations which might have been expected did not appear among the female patients. As with the male patients, there was no positive correlation between Energetic

and Hypomania. Again, as was the case with the male patients, Jittery was not correlated with Psychasthenia (anxiety).

More correlations appear in Table 5 (All Patients Combined) than in Table 3 (Correlations Common to Both Male and Female Patients). This may be due to the larger N when males and females are combined. Apparently, there were several correlations near significance level in Table 3 which became significant with the larger N in Table 5.

No consistent pattern emerged among the normal subjects (Tables 8 and 9), as few significant correlations were obtained, especially with the females. However, the smaller ranges and standard deviations for the normals as compared with the patients may have prevented many correlations from attaining significance (Table 7). For the males, in every instance except one (Social introversion) the range of MMPI scores was considerably larger for the patients. The same was true for the standard deviation except for K and Masculinity-femininity. For the females the range of MMPI scores was greater for the patients in every instance except for Psychopathic deviate and Hypomania. The standard deviation for the females was greater for the patients in every instance except Masculinity-femininity and Hypomania.

The range and standard deviation for the CMS scores also was larger in most instances for the patient, both male and female.

Furthermore, the two instruments are not designed to

Table 8

Significant Correlations (Pearson Product-Moment) Found Between the Scales of the Clyde Mood Scale and the Minnesota Multiphasic Personality Inventory

	Normal Males (N = 27)																
	? L	F	K	Hs	D	Hy	Pd+K	Mf	Pa	Pt+K	Sc+K	Ma+K	SI	Pd	Pt	Sc	Ma
C Friendly																	
M Energetic																	
S Clear- c Thinking																	
a l Aggressive																	
e s Jittery																	
Depressed																	

\* Significant at the .01 level. Other significant at the .05 level. Decimals omitted.

Table 9

Significant Correlations (Pearson Product-Moment) Found Between the Scales of the Clyde Mood Scale and the Minnesota Multiphasic Personality Inventory

	Normal Females (N = 36)																
	? L	F	K	Hs	D	Hy	Pd+K	Mf	Pa	Pt+K	Sc+K	Ma+K	SI	Pd	Pt	Sc	Ma
C Friendly																	
M Energetic																	
S Clear- c Thinking																	
a l Aggressive																	
e s Jittery																	
Depressed																	

\*Significant at the .05 level. Decimals omitted.

measure the same type of personality characteristics, so discrete correlations between the two should not be expected.

There was a tendency for the CMS D scale to be positively correlated with generalized MMPI pathology for the normal males (Table 8), but to a much lesser extent than that seen with the patient group. The polarization seen among the CMS scales for the patients was not seen among the normal subjects. Also, there were no significant correlations common to both male and female normal subjects. The fact that the Depressed scale (CMS) did not correlate positively with the Depression scale (MMPI) for the normal males again suggests that the normal males self-disclosed less than the male patients. These two scales were positively correlated in the patient group, and also in the normal females (Table 9).

For the normal males there were four correlations which obtained in the expected direction. Energetic (CMS) was positively correlated with Hypomania (MMPI), in contrast to the male patients, where no such correlation was seen. Aggressive was positively correlated with Hypomania and also with Psychopathic deviate. Persons with the high energy and activity level reflected on the Ma scale, and the asocial ideation reflected on the Pd scale would very likely be aggressive. As was the case with the male patients, Depressed was positively correlated with Hypomania. Several correlations which might have been expected were not found for the normal

males. Friendly was not negatively correlated with either Psychopathic deviate or Social Introversion. However, the standard deviation for Psychopathic deviate is comparatively small. Energetic was not negatively correlated with Depression (MMPI) as it was with the male patients.

There were three correlations in the expected direction for the normal females. Depressed (CMS) was positively correlated with the Depression scale on the MMPI. Depressed (CMS) was negatively correlated with MMPI K scale. Some depression is considered to be an indicator of receptiveness to therapy, while a low K score indicates an absence of defensiveness.

Several correlations which might be expected did not obtain for the normal females. There was no negative correlation between Friendly and Social introversion, although the standard deviation for Social introversion was relatively large. Also, Energetic was not negatively correlated with Depression (MMPI) as might be expected. In contrast to the normal males, there was no positive correlation between Energetic and Hypomania. However, the standard deviation for Energetic was small. Also, there was no positive correlation between Aggressive and Hypomania, again, in contrast to the normal males.



### CONCLUSIONS

There were no significant correlations common to all four groups. This suggests that there were important differences in the way the normals responded to the CMS compared to the patients. One possible explanation for this difference is that the effects of social desirability set were stronger for the normals than for the patients. Even if the normals could not "fake" the MMPI (if it is assumed that the validity scales of the MMPI are capable of revealing faked profiles), they could present a desirable image or possibly self-disclose less on the CMS. The normals could have been more reluctant, or less motivated to self-disclose than the patients, since the patients were in a setting where deviancy or pathology is expected, and sometimes even encouraged.

The present findings suggest that the CMS is not very useful for predicting scores on any specific scales on the MMPI. Rather, there appears to be a polarization of the CMS scales: Friendly and Energetic correlating negatively with generalized MMPI pathology; and Clear-Thinking, Jittery and Depressed correlating positively with generalized MMPI pathology. This suggests the possibility that a shortened version of the CMS could be constructed without appreciably decreasing the predictive value of the instrument. The Aggressive scale items could be eliminated as they contribute little to the discriminative power of Depressed and Jittery,

and nothing to Friendly and Energetic. Jittery could also be eliminated as it contributes very little to the discriminative power of the Depressed Scale.

Another possibility is the use of the Depressed scale items alone. This scale alone is a good predictor of generalized MMPI pathology, as Tables 1, 2, 3 and 5 indicate. This is not an unexpected finding, however, since depression is a presenting symptom of a very high percentage of psychiatric patients, especially females. Also, the patients who scored high on Depressed on the CMS evidently were depressed at the time of testing. They may have been too depressed to perceive themselves as emotionally healthy and so they tended to mark the MMPI items in the pathological direction.

The Depressed scale used alone would permit only predictions of generalized MMPI pathology, however, as it is positively correlated with eight of the clinical MMPI scales for male patients and six for female patients. A shortened version of the CMS might find utility as a quick screening device in deciding whether or not to administer the more time consuming MMPI.

There appear to be wide-ranging differences between the way male psychiatric patients and female patients respond to the CMS, and also between patients and normals. The processes involved in producing these differing responses must be investigated before the CMS can be used and interpreted

for differing groups of subjects.

For instance, the apparent effects of social desirability on the CMS which were seen in this study need to be further investigated. A study could be designed wherein one group of subjects is instructed to mark the items so as to present a desirable image of themselves, another group to mark the items in the undesirable direction, and a third group given the standard instructions. This could possibly establish the differential effects of social desirability set on the various scales. Also, the CMS needs to be further validated by comparing its scores to some criterion such as a behavior checklist.

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APPENDIX A

INSTRUCTIONS FOR CLYDE MOOD SCALE

For each word listed, make a check in the column that best tells how you feel today. For some words, you might not be sure which column to check; in these cases make a guess. No item should be omitted.

APPENDIX B

CLYDE MOOD FORM

DATE \_\_\_\_\_

NAME \_\_\_\_\_

	Extremely	Quite a bit	A little	Not at all
1. easygoing				
2. rebellious				
3. light-hearted				
4. clear-thinking				
5. contented				
6. sluggish				
7. ambitious				
8. sulky				
9. skeptical				
10. friendly				
11. carefree				
12. gloomy				
13. sexy				
14. worthless				
15. agreeable				
16. excited				
17. impulsive				
18. withdrawn				
19. serious				
20. stubborn				
21. critical				
22. obedient				
23. unreal				
24. excitable				
25. able to concentrate				
26. touchy				
27. troubled				
28. defiant				
29. timid				
30. vigorous				
31. earnest				
32. enthusiastic				

	Extremely	Quite a bit	A little	Not at all
33. talkative				
34. calm				
35. restless				
36. careless				
37. shy				
38. emotional				
39. shocked				
40. selfish				
41. quarrelsome				
42. nervous				
43. reckless				
44. dull				
45. considerate				
46. bitter				
47. lonely				
48. furious				
49. fearful				
50. complaining				
51. efficient				
52. frustrated				
53. sick to the stomach				
54. tense				
55. daring				
56. slow				
57. self-conscious				
58. unhappy				
59. businesslike				
60. quiet				
61. kind				
62. violent				
63. resentful				
64. careful				

	Extremely	Quite a bit	A little	Not at all
65. afraid				
66. suspicious				
67. trouble with sleeping				
68. boastful				
69. bossy				
70. sociable				
71. pleased				
72. demanding				
73. impatient				
74. depressed				
75. satisfied				
76. angry				
77. optimistic				
78. weary				
79. moody				
80. confident				
81. bored				
82. active				
83. lazy				
84. relaxed				
85. happy				
86. rude				
87. anxious				
88. forceful				
89. polite				
90. sleepy				
91. co-operative				
92. dizzy				
93. cheerful				
94. ashamed				
95. dreamy				
96. good-natured				
97. alert				
98. grouchy				
99. worried				

	Extremely	Quite a bit	A little	Not at all
100. genial				
101. humorous				
102. sad				
103. affectionate				
104. dependable				
105. able to work				
106. adventurous				
107. amused				
108. helpless				
109. independent				
110. nagging				
111. downhearted				
112. sick				
113. inactive				
114. pleasant				
115. energetic				
116. jittery				
117. fatigued				
118. confused				
119. playful				
120. sarcastic				
121. wide awake				
122. irritable				
123. absent-minded				
124. warm-hearted				
125. refreshed				
126. annoyed				
127. tired				
128. shaky				
129. lively				
130. drowsy				
131. bold				
132. unpredictable				
133. empty				

APPENDIX C