

SOCIO-ECONOMIC STATUS AND PERSONALITY  
FACTORS AS MEASURED BY CATTELL'S  
SIXTEEN PERSONALITY FACTOR TEST

Thesis for the Degree of M. A.  
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Shailer Thomas

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SOCIO-ECONOMIC STATUS AND PERSONALITY FACTORS AS  
MEASURED BY CATTELL'S SIXTEEN PERSONALITY FACTOR TEST

By  
SHAILER THOMAS

AN ABSTRACT

Submitted to the College of Science and Arts of  
Michigan State University of Agriculture and  
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## ABSTRACT

The problem of this thesis is to determine the relationship between socio-economic status and personality factors. The main hypothesis of this study is: There is a significant relationship between socio-economic status and personality factors. Robin Williams and Robert Merton provide the theoretical framework on which hypotheses concerning specific personality factors and socio-economic status are based.

The instruments used in this study are Raymond Cattell's Sixteen Personality Factor Test (16 PF Test) and four indices of socio-economic status (father's occupation, father's education, mother's education, and a modified short form of William H. Sewell's Socio-Economic Status Scale). Cattell's 16 PF Test is one of the few personality tests that is based on actual behavior ratings, and is designed to describe the personality variation of normal people. The four indices of socio-economic status are among the most commonly accepted in sociological research.

A sample of 345 seventeen year old high school boys in Lenawee County, Michigan were measured on these instruments. Those boys who listed their father's occupation as "farm only" were omitted from the analysis. Thus the sample

includes only those individuals who come from families in which the prestige of the father's occupation may be meaningfully rated by the North-Hatt scale.

The results of the study are based on zero order correlations obtained from the Michigan State Integral Computer. It was found that there are significant relationships between socio-economic status scores and various factors in Cattell's 16 PF Test. On the basis of these results it is possible to accept the main hypothesis of this study.

It was found that these factors in Cattell's 16 PF Test were significantly correlated with socio-economic status:

Factor A - Cyclothymia  
Culture Free Intelligence Test  
Factor C - Emotional Stability or Ego Strength  
Factor E - Dominance  
Factor G - Super Ego Strength  
Factor H - Adventurous Autonomic Resilience  
Factor N - Sophistication  
Factor Q<sub>3</sub> - Will Control

By using a personality test that is based on empirical behavior ratings this study helps to fill a gap in the research in the area of socio-economic status position and personality. Where other research has used tests designed to test clinical concepts, abnormal personalities, or vague and general surface traits this study uses a measure of various aspects of the total personality that is concerned with the source traits in a normal personality.



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The earliest and perhaps the greatest debt is owed to my parents who have given me the encouragement and support necessary for a college education.

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## CHAPTER I

### THE PROBLEM

#### Introduction

The character of stratification systems has sometimes been limited to the more "objective" differences among families in wealth and occupation; however, the sociological character of a stratification order is far more comprehensive than the distribution of scarce values or a ranking of occupations. Since primary social interactions tend to be restricted to persons of the same economic or prestige position, social classes also form subcultures; friendships, informal groups, and marriages all reveal this pattern. Hence intimate social contacts do not involve direct contact with persons of dissimilar status positions. Such an isolation of social classes reduces opportunities and value consensus in the society as a whole,<sup>1</sup> so that different social classes are characterized by different value orientations and norms. It is these differences in norms and orientations which may be expected to have a profound effect on personality; it is also these differences

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<sup>1</sup>Robin M. Williams, Modern American Society (New York: Alfred A. Knoff, 1956), p. 133.

which permit us to consider social class as a subculture slightly varied from the larger culture.

Variance in normative behavior has been substantiated by research on the various socialization practices of social classes. Research by Davis,<sup>2</sup> Erickson,<sup>3</sup> Littman,<sup>4</sup> and White<sup>5</sup> show that there are significant differences in child training practices between social classes. When we consider that personality may be formed in line with norms and value orientations it becomes clear that class membership is an important variable to be considered in studying personality. If the norms of a culture are factors in determining personality, then different norms of expected behavior which exist in various class subcultures should determine the different personality traits which will emerge. This study, therefore, is an attempt to pursue the different factors of personality and their differential occurrence in the stratification system.

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<sup>2</sup>A. Davis, and R. J. Havinghurst, "Social Class and Color Differences in Child Rearing," American Sociological Review, 1946, 6, pp. 698-710.

<sup>3</sup>Martha C. Ericksen, "Social Status and Child-Rearing Practices," in Newcomb and Hartley (eds.) Readings in Social Psychology, (New York: Henry Holt and Co., 1947), p. 494.

<sup>4</sup>R. A. Littman, R. C. Moore, and J. Prince-Jones, "Social Class Differences and Child Rearing: A Third Community for Comparison with Chicago and Newton," American Sociological Review, 22, 1957.

<sup>5</sup>Martha S. White, "Social Class, Child Rearing Practices and Child Behavior," American Sociological Review, 22, 1957.



The Problem: In 1952 Auld<sup>6</sup> published an article reviewing the research in the area of status and personality. Using three criteria, he assessed the adequacy of twenty-four different studies and concluded that middle class subjects do better on personality tests than do lower class subjects. In 1956 Sewell and Haller<sup>7</sup> published an empirical study which supported the relationship between status and personality. If the development of personality is in line with cultural and sub-cultural norms, it is logical that different personality norms are passed on to persons in different interactional contexts. One's position in the stratification system is one of the more important factors which produces a differential interaction context. Certain common traits are possessed by individuals who share common experiences. Hence this factor of social class position is one which cannot be ruled out as an influence on personality. People in different status positions learn different ways of behavior. Social class limits and defines the learning environment for children of different classes.

Unfortunately, this aspect of social-psychology has never been fully explored. To date there exists no systematic

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<sup>6</sup>Frank Auld, Jr., "Influence of Social Class on Personality Test Responses," Psychological Bulletin, 49, 1952, pp. 318-332.

<sup>7</sup>W. H. Sewell, and A. O. Haller, "Social Status and Personality Adjustment of the Child," Sociometry, 19, 1956, pp. 114-125.

analysis of the relationship between personality factors and social status positions. Many studies have been made linking such aspects of personality as intelligence, social adjustment, educational achievement, nervous tension, anxiety, etc. to social status;<sup>8</sup> but a comprehensive and systematic relationship between personality factors and social status is lacking. Hence, the problem of this study is to examine the relationship between socio-economic<sup>9</sup> status and personality factors. The main hypothesis of this study is: there is a significant relationship between socio-economic status and personality factors.

Significance of the Study: The theoretical significance of this study is two fold, (a) to Sociology: the importance of this study lies in the re-establishment of the status-personality hypothesis, and the re-affirmation of the importance of one's position in the stratification order as a factor which selects and determines the learning environment. This study will also indicate which variables Cattell's Sixteen Personality Factors Test are correlated with socio-economic status. (b) to Personality: this study

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<sup>8</sup>Ibid., pp. 114-125.

<sup>9</sup>The four indices of socio-economic status in this study are in the form of continua from high to low. The upper ends of these continua will be referred to as middle and upper class or high socio-economic status and the lower end will be referred to as the lower class or low socio-economic status.

will give a clear demonstration of, and further support for, the relationship between socio-economic status and personality; it is a more thorough study of the exact nature of this relationship.

Scope of Study: The scope of this study is limited to the relationship of sixteen personality factors to socio-economic status.

This study is limited to the 345 seventeen year old boys attending high school in Lenawee County, Michigan, in the spring of 1957, whose fathers have non-farm occupations. A good cross-section of the stratification order is represented. At the age of seventeen personality factors have crystalized to some extent since the boys are still under the influence of the family which socialized them, but they are also beginning to exert their independence.

Since the theory presumably applies to all men, in that personality differences will vary with status differences, this study is not theoretically restricted. However, the sample used is an American sample and specific conclusions drawn may well apply only to American culture. If the results are interpreted in terms of high or low position in a stratification structure, the conclusions might well be applied on a cross cultural basis. Some further comments are made on this in the last chapter.

Conclusion and Organization of the Thesis: This chapter has presented the problem to be studied, the significance of the study, and the scope of the study. Chapter Two

will present the theoretical orientation of the study and the hypotheses that are made concerning a relationship between socio-economic status and specific personality factors. The sample and instruments used, and the analysis of data make up Chapter Three, while Chapter Four states the results of this study. In Chapter Five some conclusions are drawn from this study and suggestions for further research are presented.

## CHAPTER II

### THEORY AND HYPOTHESES

Purpose of chapter: The purpose of this chapter is threefold: first, to set forth a general statement concerning the stratification order; second, to develop a theoretical framework concerning the relationship between social class and certain psychological manifestations in the personality in the stratification system; and third, to develop specific hypotheses linking the personality factors in Cattell's Sixteen Personality Factor Test to socio-economic position.

The Stratification Order: Before attempting to link psychological consequences with one's social class position it is necessary to first set forth a view of the stratification order.<sup>1</sup>

Theoretically, all individuals in a society may be valued equally. Actually, no large or long lived group has maintained equal evaluation since differential evaluation is universally found in large scale social systems.<sup>2</sup> Since this

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<sup>1</sup>Many of the ideas expressed here concerning the stratification system come from Robin Williams, American Society, (New York: Alfred Knopf, 1956), ch. 5.

<sup>2</sup>Ibid., p. 76.



research is not intended as an exploration of the stratification order, social stratification will be considered as a ranking of individuals and groups on a scale of superiority-inferiority. Such a ranking is possible only if there exists value consensus in a social system. Therefore, stratification is meaningful only within a specific social system, and cross cultural indices of stratification will be accurate only to the degree to which there is value consensus between the cultures.

| Both Kahl and Barber in their books on social stratification mention several different criteria commonly used to indicate the social status position of families. Four of these will be used in this study. One deriving from the economic production order of the society, is the occupational prestige status of the head of the household. Another pair deriving from the training system of the society, are the educational levels of each parent. A fourth, derived largely from the economic consumptive order of the society, is the persons rating on a modification of the Sewell Socio-economic Status Scale (more will be said about these indices in Chapter Three). | These criteria are the objective external indices which point to an individual's position in the stratification order. The distribution of these criteria serve to place one in a position which carries with it certain privileges and restrictions. We shall use the term social class to refer to that aggregate of individuals who occupy a

similar position in the scale of prestige, and thus have a similar degree of access to cultural goals.

By the ideals of American society, social position should be based on personal qualities and achievement. It is held that our society is one in which the individual is free to move to those positions in society which he has earned by his skills and achievement. Hence one's position is determined by what one does or can do as an individual. No great insight is necessary to see that such equality of movement does not, in fact, exist even though the ideals of American society subscribe to the concept of an open-class system. / It would not be hard to demonstrate that inherited social position, "connections", and other factors irrelevant to personal qualifications have helped to place persons at various levels in the stratification order. |

To support the fact of stratification in the United States we may look at the distribution of scarce values. In 1950 forty-six percent of the families in the United States had an income of less than \$4000, and eleven percent had an income of \$8000 or more.<sup>3</sup> Such a distribution of income reflects itself in the high style of living of certain segments of the population. The segment of the population with

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<sup>3</sup>U. S. Office of Business Economics, Income Distribution in the United States, (Washington: U.S. Government Printing Office, 1953), p. 4.

the higher income will have better conditions of living and more luxury items. Since most of the general population main source of income is the job, it becomes apparent that the distribution of income reflects a comparative occupational structure. Occupation and income therefore, are convenient symbols of position in the social structure; they give an indication of one's style of life.

As a result of the differential distribution of income, which carries with it differential access to cultural goals and hence differential status, there result differences in behavior patterns. Some of these such as living conditions and luxuries, have been indicated above, others are found in studies of community participation, education, and criminal behavior. Examples from these areas will serve to indicate the differences in behavior patterns. In Yankee City, Warner reports that the percentage of persons belonging to formal organizations increases as one moves from the lower-lower class to the upper-upper class. Axelrod, in a study of social participation in the urban situation, reports the same general finding.<sup>4</sup> Participation in voluntary organizations increases as one goes from low to high socio-economic status groups.

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<sup>4</sup>Morris Axelrod, "Urban Structure and Social Participation," in Hatt and Reiss (eds.) Cities and Society, (Glencoe, Illinois: The Free Press, 1957), p. 722.

Despite the extensive public school system in the United States it is observed that there is an educational difference between social classes. For instance, the norms of the public schools are middle class norms; the teacher is most likely a middle class person. As a result, the lower class child, acting in accordance with his lower class norms, comes into conflict with the school situation. One ramification of this may well be an increase in nervous tension.<sup>5</sup> Certainly such a situation does not contribute to easy adjustment, and most likely this conflict which the lower class child faces is a prime factor in the fact that school leavers are mostly lower class children.<sup>6</sup> It is after graduation from high school that the effects of social class position become plainly visible. For despite educational loans and scholarships, it is still the middle and upper classes that can most easily afford a college education. For this and perhaps other reasons the educational system in the United States shows a middle-class bias.

Finally, there are indications that the American system of law enforcement is biased against the lower class. Crime is looked upon as mainly a lower-class phenomenon.

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<sup>5</sup>W. H. Sewell, and A. O. Haller, "Factors in the Relationship between Social Status and the Personality Adjustment of the Child," American Sociological Review, 24, August 1959, pp. 511-520.

<sup>6</sup>E. G. Youmans, "The Educational Attainment and Future Plans of Kentucky Rural Youths," Ken. Ag. Experiment Station, University of Kentucky Bulletin 664, January 1959, p. 29.

Offenses committed by the middle class persons are not as severely punished or as easily detected as those committed by lower class persons.<sup>7</sup> A middle class status thus gives some degree of protection from punishment and arrest.

These examples point out that if the stratification system is approached by considering the distribution of privileges it can clearly be seen that marked differences between classes do, in fact, exist. Further examples such as mortality rates, health rates, ability to wield authority, could also be cited; but the above examples will suffice to illustrate that there are differences in privileges and behavior patterns. Other social institutions such as clubs, restaurants, churches and informal gatherings are all characterized by a relatively homogenous class population. As stated in the Introduction to Chapter One, friendships, cliques, marriage patterns, and housing patterns all reflect a good deal of intra-class interaction.

It can also be demonstrated that there is a relative uniformity in attitudes<sup>8</sup> in social classes and that there is a definite uniformity in the perception of the class structure.<sup>9</sup>

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<sup>7</sup>E. Sutherland, and D. R. Cressy, Principles of Criminology, (New York: J. B. Lippincott Co., 5th ed., 1955), ch. 5, pp. 11-14.

<sup>8</sup>P. F. Lazarsfield, B. Berelson, and H. Gaudet, "Social Factors in Voting," in Newcomb and Hartley (eds.) Readings in Social Psychology, (New York: Henry Holt and Co., 1947), p. 605.

<sup>9</sup>A. Davis, B. Gardner, and M. Gardner, "The Class



It is this last fact that is particularly interesting, for if perception of the social structure is dependent in part on class position, and there is uniformity in class perception, then it is more likely that there will be uniformities in reactions and psychological states. It is this uniformity of reaction to the social structure that underlies much of the theoretical orientation developed below.

We have seen that in many cases there are great differences in the objective rewards which are obtainable by the various classes. It would not be an unfair generalization to state that the lower class population is at a disadvantage when it comes to gaining cultural goals. This disadvantage may be expected to produce tension and anxiety in the individual's personality, and as a result, certain personality factors may be more prominent in the population of one class position than in another. Before we see what traits might be connected to class position let us examine three areas of tension or stress that may arise.<sup>10</sup>

The well developed communication system in the United States and the heterogeneity of its population leads to an awareness of one's own standing in relation to those about

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System of the White Caste," in Newcomb and Hartley, Ibid., p. 467.

<sup>10</sup>Williams, op. cit., pp. 125-128.

him. | Great publicity is given to consumption patterns. As a result, the individual is able to pin point his status in the social structure fairly well, and by comparing his position to that of his elders he is able to predict just how far he will be able to succeed in attaining the consumer goods symbolic of success, and how far he will be able to advance his position in the occupational world. |

| Secondly, there is the ideal of equality of opportunity and the American dream of vertical mobility. Experience will show that there is a good deal to be said for ascribed status in American Society. The ambitious lower class person often finds that he lacks certain behavior patterns necessary for advancement, and that he doesn't fit into the preference patterns of the class that he aspires to join. |

| The third area of tension is closely related to the other two, it consists of a tendency to establish high levels of aspiration throughout the stratification system. | There is a concentration of attention and effort on the success theme in American Society. This and the ideals of equality of opportunity and unlimited opportunities work to create a continuous upward pressure. | If one fails to achieve success he is not a model American. In the lower class situation not only do the individuals generally not obtain success but in many cases they are restricted from even attempting to pursue the ideals. | A blocking of mass ambitions would

not only imperil the stability of the social structure, but also, if maintained, would have severe effects on personality. As it is there are compensations in our society to allow the "excess steam" to filter out. Some mobility is possible, there is a high standard of living and comfort and in our culture there are growing legal and political rights which tend to be equalitarian. However, in American Society there appears to be a certain amount of tension and stress developing because of the lower class position in the social structure.

The Individual in the Stratification Order: In attempting to develop a theoretical framework on which to base the specific hypothesis it is necessary to consider the characteristics of the position occupied in the social structure and to consider the research which links certain personality variables to class position. According to Cattell, certain personality factors may be associated with one's position in the stratification order. An individual who is in a lower class position is exposed to a disproportionate amount of conflict, restriction, and frustration when compared to a middle or upper class position. A good deal of this type of environment may be explained by the lack of access to cultural goals valued by the larger society.

If we can see one social class as possessing more conflicts and restrictions, then that class should develop

certain personality traits in its members which will set them off from members of other classes. One way of phrasing this theoretical framework is put forth by Merton,<sup>11</sup> and by Meier and Bell.<sup>12</sup> The generalization which is the thesis of the article by Meier and Bell is that "anomia results when individuals lack access to means for the achievement of life goals". The lack of opportunity or access results from the individuals position in the social structure. One of the main factors which acts to determine ones position in the social structure is class position, others include sex, age, and ethnicity. It can be seen that the lower class position is characterized by a lack of access to many of the goals and values held in respect by the norms of the larger society.

Socio-economic status itself is a goal for most persons in American society. It also indicates a degree of influence over the resources needed to achieve other goals. | An individual in a low status position, lacking in such things as money, training, and education, has little opportunity to improve his position. Hyman<sup>13</sup> states this very clearly.

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<sup>11</sup>R. K. Merten, Social Theory and Social Structure, (Glencoe, Illinois: The Free Press, 1957), ch. 4, 5, 6.

<sup>12</sup>D. L. Meir, and W. Bell, "Anomia and Differential Access to the Achievement of Life Goals," American Sociological Review, 24, 1959, p. 189.

<sup>13</sup>H. H. Hyman, "The Value System of Different

"Opportunity in the society is differentiated; higher education or specialized training, which might provide access to a high position, must be bought with money - the very commodity which the lower classes lack."

Due to early socialization practices, lower class persons also lack the knowledge of expected behavior in middle class situations. This may act to destroy the means of improvement of one's position. As a consequence, a member of the lower class may find that the prescribed goals are impossible. The findings of Meir and Bell support this conclusion. They report that the greater anomia scores associated with lower class position are a result of the individual perceiving himself as being at the bottom of the stratification order and as lacking the necessary qualifications to attain his goals. Thus we may think of the lower class as being an unfavorable position which has consequences for the psychological structure of personality.

As stated above, access to the achievement of goals is socially structured. The opportunities to obtain particular statuses and the relative control over resources are important factors in considering the degree to which an individual may or may not achieve his goals. Access to cultural goals such as occupation, money, and education is differentially distributed throughout the social structure.

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Classes," in Bendix and Lipset (eds.), Class, Status, and Power, (Glencoe, Illinois: The Free Press, 1953), pp. 426-442.



Other factors controlled, it is usually individuals in the middle and upper classes who are not only socialized to accept these goals, but who also have the opportunities to pursue them. The lower class on the other hand is socialized to accept these cultural goals, but lacks the opportunity to pursue them. The unsuccessful attempts to work toward these goals result in conflict, frustration, and a sense of personal disorganization or anomia.

The lower class may be considered as having a lack of expressive facilities; i.e. the lower class does not prepare the individual in the means of attaining cultural goals. Hence one result of unresolved conflicts brought on by one's position in the social structure is the formation of certain psychological adaptive mechanisms, these can be measured by personality tests and by the observation of social phenomena. In other words, certain goals are pointed out as being desirable but the means to attain them are blocked because of one's class position, this may result in the formation of certain personality structures.

This idea of a discrepancy between cultural goals and one's position in the social structure is also put forth by Robert Merton.<sup>14</sup> His theoretical analysis points out not only that class strata are differentially subject to anomie, but also are differentially subject to types of responses to

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<sup>14</sup>Merton, op. cit., ch. 4,5.

it. Merton's analysis is based on three concepts: cultural structure, social structure, and anomie. Cultural structure is defined as an "organized set of normative values governing behavior which is common to members of a designated society or group."<sup>15</sup> Social structure is "that organized set of social relationships in which members of the society or group are variously implicated."<sup>16</sup> He then conceives of anomie as "a breakdown in the cultural structure, occurring particularly when there is an acute disjunction between the cultural norms and goals and the socially structured capacities of members of the group to act in accord with them."<sup>17</sup> He continues:

"On this view, the social structure strains the cultural values, making action in accord with them readily possible for those occupying certain statuses within the society and difficult or impossible for others. The social structure acts as a barrier or an open door to the acting out of cultural mandates."<sup>18</sup>

Though Merton goes on to analyze anomie and its relation to deviant behavior, it is the object of this thesis to investigate the affect of one's status position in the social structure on personality. The discrepancy between cultural goals and means to attain them which Merton describes may have a noticeable affect on personality factors.

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<sup>15</sup>Ibid., p. 162.    <sup>16</sup>Loc. cit.    <sup>17</sup>Loc. cit.

<sup>18</sup>Ibid., pp. 162-163.

So far in this theoretical discussion one main point has been stressed concerning the effects of stratifications, Robin Williams has pointed out that there are areas of stress in the stratification order. Robert Merton has made this more explicit when he points out the existence of the discrepancy between cultural goals and socially structured opportunities. It has been maintained here that this discrepancy may affect personality factors. An additional point that has been implied in the above discussion now needs to be developed. In Chapter One and in parts of this chapter it has been mentioned that different personality factors may be partially explained by different interaction contexts. For instance in the first Chapter it was mentioned that primary social interaction tends to be restricted to persons of the same socio-economic status position; more recently it was mentioned that the lower class lacks knowledge of the expected behavior in middle class situations, and the lower class does not prepare its members in the means of attaining cultural goals. It can be seen that success norms and the teaching of techniques necessary to fulfill them are transmitted most effectively by the middle class. The middle class also has more of a command over the facilities leading to achievement of cultural goals, thus providing more opportunity for the success of the middle class child.

The lower class child comes into contact with these success norms and facilities through his contacts with middle

class persons; but he tends not to come into contact with norms leading to success through either his parents or other lower class persons. Hence the opportunities for learning these norms and facilities are greatly reduced for the lower class child. The middle class may be considered a dominant sub-cultural group which sets the goals both for itself and the lower class. The norms, facilities and techniques that lead to the attainment of the goals are also determined to a great extent by the middle class, but they are not provided for the lower class child. Therefore the goals, and the norms, facilities, and techniques essential to goal attainment, are available to the middle class child, but only the goals are available to the lower class youth.

In line with this point class position should affect personality factors in two ways: (1) by providing a learning environment which restricts the lower class youth's chances of learning personality orientations that are necessary to achieving cultural goals (2) because the lower class youth's relatively unsuccessful attempts to achieve the success goals, which he experiences as punitive treatment, should result in several reaction formations such as schizothymia, anxiety, nervousness, etc.

This is the theoretical foundation from which the hypotheses of this study are derived.

## Hypotheses

General Hypothesis: There is a significant relationship between socio-economic status and personality factors.

General Rationale: The theoretical orientation above is the basis for this hypothesis. The three main points that are put forth are: (1) there are certain areas of strain in the American stratification order that may affect personality factors, (2) there exists a discrepancy between cultural goals and socially structured means that may affect personality factors, (3) social class may be considered a sub-culture which is a learning environment. || The middle class provides for its members cultural goals, and the norms, facilities, and techniques that are necessary for goal attainment; the lower class, on the other hand, provides only the goals. | The unsuccessful attempts to attain the cultural goals are experienced as punitive treatment. Thus the lower class environment may be considered as restrictive (in the material that is transmitted) and punitive (in that attempts to follow cultural goals are unsuccessful).

Thus to the extent that one's pursuit of cultural goals is blocked, and to the extent that one perceives himself as being frustrated in his attempts to attain cultural goals and perceives others as being in better situations

than himself<sup>19</sup> then there will result adaptations to the stratification order.<sup>20</sup>

Specific Hypotheses:<sup>21</sup> 1. Factor A - Cyclothymia vs. Schizothymia.

Hypothesis: There exists a significant relationship between socio-economic status and cyclothymia.

This factor loads:

Good natured, easy going vs. spiteful, grasping,  
critical  
Ready to co-operate vs. obstructive  
Attentive to people vs. cool, aloof  
Soft hearted, kindly vs. hard  
Trustful vs. Suspicious  
Adaptable vs. rigid  
Warm hearted vs. cold

Rationale: As stated above, an individual in a lower class position is exposed to a disproportionate amount of conflict, restriction and frustration. The lower class environment is more restrictive and punitive than the middle class environment; there is less access to the cultural goals and attempts to

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<sup>19</sup>A. Davis, B. Gardner, and M. Gardner, op. cit.

<sup>20</sup>It should be noted that a case is not being made to consider social class position as the sole cause of personality differences or personality formation; rather it is maintained that social class position must be considered in the study of Social Psychology.

<sup>21</sup>It is necessary to point out that Cattell's 16 PF test is designed to survey the total personality and not to indicate neurosis or psychosis. It can be seen that many of the titles of the sixteen factors could be construed to mean various forms of mental illness. However, Cattell considers that these titles mean something different than the similar names of mental disorders. These factors are the primary



obtain such goals are often hampered by one's lower status position in the social structure. These restrictive and often punitive factors act so forcefully that there is a tendency to withdraw from the situation; this characteristic is commonly known as schizophrenia. (Hollingshead and Redlich's<sup>22</sup> research on the rate of mental illness bears this out. They found the rate of schizophrenia increases as one goes down the class structure. This study is a good empirical statement of the theoretical background stated here. A restrictive and punitive environment appears to be one of the best explanations of the larger rate of psychoses in the lower class.)

## 2. Factor B - Intelligence vs. Mental Defect

Hypothesis: There is a significant positive relationship between socio-economic status and intelligence.

(Cattell's Culture Free Intelligence Test will be used to measure intelligence in place of Factor B of the 16 PF Test. Since this is a full length intelligence test it is expected that it is a more accurate assessment of the

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source traits known today. In the section concerned with hypotheses the following arrangement will be followed: the factor's letter index (i.e., A,C,F, etc.); the factor's name; the factor loadings (in order of diminishing mean loading; the list is cut where the loadings approach insignificance); and a short discussion of the relationship of the factor to position in the social structure.

<sup>22</sup>A. B. Hollingshead, and F. C. Redlich, "Social Stratification and Psychiatric Disorder," American Sociological Review, 18, 1953, pp. 163-169.



intelligence factor than the twelve items that make up Factor B of the 16 PF Test.)

Rationale The rationale for this hypothesis is based on the third point in the theoretical orientation presented above. A lower socio-economic status position restricts the individual from learning certain techniques that would enable one to score highly on this test. Lower status individuals lack the means to learn symbolic skills necessary to score high on the Culture Free Intelligence Test (CFIQ).

### 3. Factor C - Emotional Stability or Ego Strength vs. Dissatisfied Emotionality

Hypothesis: There exists a significant positive correlation between socio-economic status and emotional stability or ego strength.

This factor loads:

Emotionally mature vs. lacking in frustration tolerance  
Emotionally stable vs. changeable  
Calm, phlegmatic vs. showing general emotionality  
Realistic about life vs. evasive  
Absence of neurotic fatigue vs. neurotically fatigued  
Placid vs. worrying.

Rationale: Ego strength, as defined by Cattell, is the capacity to express available energy along integrated, as opposed to impulsive, channels.<sup>23</sup> In psychoanalytic theory

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<sup>23</sup>R. B. Cattell, Personality and Motivation: Structure and Measurement, (Yonkers-On-the Hudson: World Book Co., 1957), pp. 101, 103, ff.



the ego stands between the Id and the super-ego and acts as an administrative agent governing the powers of these two forces while conducting all transactions with the outer world.<sup>24</sup> Therefore, ego strength can be seen as the ability to avoid impulsive or overly moralistic behavior. Bronfenbrenner has pointed out<sup>25</sup> that the middle class parent has higher expectations for the child than does the lower class parent. The middle class child is expected to assume responsibility for himself and duties in the home and to progress further in school. / Douvan<sup>26</sup> studied need achievement (n achievement) in relation to social status and found that the mean n achievement scores of middle class boys were consistent regardless of whether there was an abstract norm to follow or a material reward to strive for. Working class boys on the other hand had significantly lower n achievement scores when a material reward was not present. It may be said that the middle class child, because of his position in the social structure, is in a learning environment that

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<sup>24</sup>C. Hall and G. Lindzey, "Psychoanalytic Theory and Its Application in the Social Sciences," in Lindzey (ed.), The Handbook of Social Psychology, (Cambridge, Massachusetts: Addison-Wesley Pub. Co., Vol. I, 1954).

<sup>25</sup>U. Bronfenbrenner, "Socialization and Social Class Through Time and Space," in Maccaby, Newcomb, and Hartly (eds.), Readings in Social Psychology, (third edition; New York: Henry Holt and Co., 1958), p. 400.

<sup>26</sup>E. Douvan, "Social Status and Success Strivings," in Atkinson (ed.) Motives in Fantasy, Action, and Society (New York: Van Nostrand Co., 1958), ch. 36.



facilitates the learning of techniques that are conducive to the attainment of cultural goals. Thus we may conclude from the above studies that middle class children learn to channel their energy along integrated lines to more abstract and long range goals. This is enhanced by the fact that ideals of society are more easily attained by middle class people;<sup>27</sup> hence there is a greater degree of congruence between what one ought to do and what one can do. Lower class people on the other hand do not fully learn this ability to channel energy along integrated lines and therefore should exhibit more impulsive behavior or, in Cattell's terms, dissatisfied emotionality.

#### 4. Factor E - Dominance vs. Submission

Hypothesis: There exists a significant curvilinear relationship between the personality factor Dominance and socioeconomic status. This may be divided into three sub-hypotheses:

- a. the relationship is curvilinear
- b. people high and low on SES are high on Dominance. People in the middle class are low on Dominance
- c. the relationship is significant

#### This factor loads:

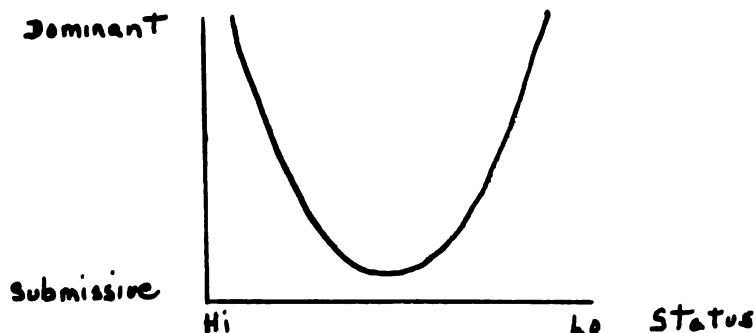
Assertive, self-assured vs. submissive  
Independent minded vs. dependent  
Hard, stern vs. kindly, soft-hearted  
Solemn vs. expressive

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<sup>27</sup>Hyman, op. cit.

Unconventional vs. conventional  
 Tough vs. easily upset  
 Attention getting vs. self-sufficient

Rationale: As stated above, (see rationale for factor C) the middle class is characterized by deferred gratification and greater achievement.<sup>28</sup> Therefore the middle class is more "norm conscious"; they are careful to evaluate behavior in terms of the expected behavior which is necessary to obtain cultural goals. Their behavior may be termed "conventional", or submissive. Lower class individuals, because of their inability to move toward goals may feel a sense of "defeatism"; a sense that whether or not their behavior is in line with the norms does not matter. Hence they may be described as "unconventional", or more dominant. Upper class people on the other hand, because they are "on top of the pile" realize that their behavior need not conform to the norms. If this is the case, then we may expect the upper and lower class to score high on dominance (or unconventional behavior) and the middle class to score low on dominance. Roughly then, a scattergram should reveal the following curve.




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<sup>28</sup>Douvan, op. cit.

### 5. Factor F - Surgency vs. Desurgency

Hypothesis: There is a significant positive relationship between surgency and socio-economic status.

This factor loads:

Talkative vs. silent, introspective  
Cheerful vs. depressed  
Placid vs. anxious  
Frank, expressive vs. incommunicative, smug  
Quick and alert vs. languid, slow

Rationale: One of the chief characteristics of a personality which has spent several years in such a restrictive situation as described above, is a sense of desurgency. The individual is depressed, retiring, anxious, rigid and suspicious. According to Cattell,<sup>29</sup> "the essence of normal desurgency is a sobering inhibition by experience of punishment or failure". He reports that desurgency rises as school leavers encounter the difficulties of life, and that children "of more well-to-do families are significantly more surgent."<sup>30</sup> These findings suggest that: a. surgency is related to difficulties encountered in one's environment; and, b. these difficulties are to some extent dependent on the class position of the family.

Therefore, since the lower class position is perceived as restrictive and punitive, we may expect desurgency

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<sup>29</sup>Cattell, op. cit., pp. 112-119.

<sup>30</sup>Ibid., pp. 112-119.

to be significantly more prevalent in the lower socio-economic groupings.

6. Factor G - Character or Super-Ego Strength vs. Lack of Internal Standards

Hypothesis: There is a significant positive correlation between character or super-ego strength and socio-economic status.

This factor loads:

Persevering, determined vs. quitting, fickle  
Responsible vs. frivolous  
Emotionally mature vs. demanding, impatient  
Consistently ordered vs. relaxed, indolent  
Conscientious vs. undependable  
Attentive to people vs. obstructive

Rationale: Sociologically speaking the super-ego may be considered as the persons incorporation of the ideal norms of behavior which are transmitted primarily by verbal and printed means, and secondly, by behavior. The super-ego represents the ideal, or what ought to be.<sup>31</sup> Situations which conflict with these norms act to deteriorate the super-ego strength. If a lack of internal standards is associated with the lower status group, it would tend to support the theory that the lower class tends to encounter more resistance in obtaining the ideals of society. One explanation of the resistance might be that there are differences in learned behavior between classes. Higher classes have learned behavior which corresponds more accurately to the norms of ideal

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<sup>31</sup>C. Hall, and G. Lindzey, op. cit., pp. 153-155.



behavior; hence less conflict, and the super-ego is supported. The lower class on the other hand, internalizes the same cultural values as do the other classes, yet their means to fulfill these values, or to reach their goals, are blocked; hence there is little support for a strong super-ego from the external world. This lack of support for the super-ego thus allows the internalized values to die out, so that lower class individuals may be expected to have significantly less internal standards.

7. Factor H - Adventurous Autonomic Resilience vs. Inherent, Withdrawn Schizothymia

Hypothesis: There is a significant positive relationship between adventurous resilience and socio-economic status.

This factor loads:

Gregarious sociability vs. shyness, withdrawing tendency  
 Adventurous bold vs. cautious, retiring  
 Having marked interest in the opposite sex vs. slight interest in the opposite sex  
 Frivolous vs. conscientious  
 Strong, artistic or sentimental interests vs. lack of same  
 Abundant emotional response vs. coolness, aloofness

Rationale: It has been pointed out in the theoretical framework for some of the above hypotheses that a case may be made for considering the lower class position as one which is characterized by a disproportionate amount of conflict and frustration. If such is the case then we may expect the inherent, withdrawn schizothymia part of Factor H to be related to lower class positions. Cattell gives some support

to this expectation when he observes that this factor is associated with the father of the child being in the lower income range.<sup>32</sup>

Cattell further describes the H - (or withdrawn schizothymia) person as one who has learned that human contacts are autonomically exhausting.<sup>33</sup> It is pointed out by Cattell that the terms Parasymphathetic Immunity vs. Threat Reactivity are perhaps more pointed terms which may be used to describe this trait.<sup>34</sup> In a social environment which restricts mobility and the attainment of other cultural goals, the individual finds his self-esteem threatened. After many unsuccessful attempts to advance oneself or to obtain culturally designated goals, the typical reaction is one of withdrawal from the situation. This may be termed either withdrawn schizothymia or threat reaction. As stated above, the lack of expressive facilities in the lower class may also result in a psychological phenomena such as schizothymia.

8. Factor I - Emotional Sensitivity vs. Tough Maturity.

Hypothesis: There exists no relationship between Factor I and socio-economic status.

This factor loads:

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<sup>32</sup>Cattell, op. cit., p. 129.

<sup>33</sup>Ibid., p. 130.      <sup>34</sup>Ibid., p. 130.

Demanding, impatient vs. emotionally mature  
 Dependent, immature vs. independent minded  
 Imaginative, introspective vs. set and smug  
 Kindly, gentle vs. hard, cynical  
 Aesthetically fastidious vs. lacking artistic feeling  
 Frivolous vs. responsible  
 Attention getting vs. self-sufficient

Rationale: Though it has been maintained that one's position in the social structure is an underlying variable in determining personality factors, it can by no means be maintained to contribute to all personality traits. If such were the case, and personalities were the result only of cultural or social phenomena, then the variations in personalities within a society would be greatly reduced. As it is, however, personality develops not only as the result of exposure to cultural phenomena, but also as a result of personal experiences and biological differences.<sup>35</sup> Factor I is a factor which cannot be theoretically connected to socio-economic status. This factor may partially be a result of a biological or heredity factor; for instance, emotional sensitivity may be related to certain neurological factors.

Since Cattell points out that women score higher than men, and older people higher than younger ones,<sup>36</sup> it may be

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<sup>35</sup>See C. Kluckhohn, H. Murray, and D. Schneider, (eds.) Personality in Nature Society and Culture (New York: Knoff, 1956), ch. 2 for a further discussion on similarities and differences in personality as a result of biological, cultural, role, and individual factors.

<sup>36</sup>R. B. Cattell, D. Saunders, and G. Stice, Handbook for the Sixteen Personality Factor Questionnaire (Champaign, Illinois: Institute for Personality and Ability Testing, 1950), p. 9.

expected that within this sample composed of seventeen year old males this factor will not be related to socio-economic status.

9. Factor L - Paranoid Schizothymia vs. Trustful Altruism

Hypothesis: There exists a significant negative correlation between paranoid schizothymia and socio-economic status.

This factor loads:

Prone to jealousy vs. free of jealous tendencies  
Placid, shy, bashful vs. composed  
Suspicious vs. trustful  
Dour vs. cheerful  
Rigid vs. adaptable  
Hard and unconcerned vs. concerned about other people

Rationale: If one's position in the social structure is detrimental to the attainment of cultural goals, and if successive attempts to reach cultural goals result in continued frustration, then one's reaction to this type of situation may be one of a feeling of persecution; it is the lower class which is more apt to find its position detrimental to the attaining of cultural goals and hence show signs of paranoia. If, on the other hand, one is successful in attaining culturally valued goals (the middle and upper class), then one may have a more trustful and composed outlook on life.

10. Factor M - Hysteric Unconcern (or "Bohemianism") vs. Practical Concernedness

Hypothesis: There exists a significant negative correlation between hysteric unconcern and socio-economic status.

This factor loads:

Unconventional, eccentric vs. conventional  
 Sensitively imaginative vs. practical, logical  
 Undependable vs. conscientious  
 Placid exterior vs. easily concerned and expressive  
 Occasional hysterical emotion vs. given to keeping  
 head in emergencies

Rationale: Research has shown the middle class person to be in one sense more concerned with his position in the social structure than the lower class person. Since the middle class is generally characterized as being oriented toward deferred gratification, it would appear that for the most part this factor of practical concernedness would be associated with the upper half of the social class structure rather than with the lower half.

## 11. Factor N - Sophistication vs. Rough Simplicity

Hypothesis: There is a significant positive relationship between sophistication and socio-economic status.

This factor loads:

Polished vs. clumsy, awkward  
 Cool, aloof vs. attentive to people  
 Fastidious vs. easily pleased

Rationale: Since middle and upper class people have more access to facilities which would tend to develop sophistication such as education, travel, and generally a wider variety of experience, it can be assumed that this part of the social class structure will score higher on the N<sup>+</sup> or sophistication side of this factor than will the lower class persons.

12. Factor 0 - Anxious Insecurity vs. Placid Self Confidence

Hypothesis: There is a significant negative correlation between anxious insecurity and socio-economic status.

This factor loads:

Anxious vs. placid  
Worrying vs. tough, calm  
Suspicious, brooding vs. given to simple action

Rationale: As the theoretical framework points out a case may be made for considering the lower class position as restricting and frustrating. Repeated rebuffs when one attempts to follow culturally approved patterns may result in an anxious insecurity trait. This trait may not appear in those persons possessing the facilities and opportunities to successfully pursue cultural goals.

13. Factor Q<sub>1</sub> - Radicalism vs. Conservatism

Hypothesis: There is no significant relationship between the personality trait Radicalism vs. Conservatism and socio-economic status.

Rationale: This factor has previously appeared in attitude surveys rather than in personality tests. Since this factor does not seem to be one which can be related to personality and social structure this writer has not set forth a directional hypothesis. It seems that this factor could be related to: (a) critical thinkingability, i.e., an open or closed mind, or, (b) a tolerance of inconveniences. In

either case there is no evident reason for expecting a correlation between this personality factor and position in the stratification order.

14. Factor  $Q_2$  - Independent Self-Sufficiency vs. Lack of Resolution

Hypothesis: There is a significant positive relationship between independent self-sufficiency and socio-economic status.

Rationale: Davis and Havighurst<sup>37</sup> point out that the middle class child is expected to assume responsibilities for duties about the home at an earlier age than the lower class child. While lower class children are not as subject to regulations and have more freedom of movement, they are expected to get a job at an earlier age. Davis and Havighurst emphasize that the data in this area is still tentative and often conflicting, and that childrearing practices, like other aspects of American culture are not stable. However, this writer believes that it is safe to say that in the middle class many of the child training practices are concerned with the development of independence and achievement behavior. It is possible that the lower class child does not come into contact with norms that demand this type of behavior. Some

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<sup>37</sup>A. Davis, and R. J. Havighurst, "Social Class and Color Differences in Child Rearing," American Sociological Review, 6, 1946, pp. 698-710.

support for these ideas is found in an article by Rosen; he says:

"From babyhood on much of the middle class child's affect is likely to be associated with achievement related behavior structured for him by the training practices and values of his parents. In the pre-school period the tendency for middle class parents to make early demands upon their children is reflected in such practices as early toilet training and the intense concern with cleanliness. As the child grows he is frequently urged and encouraged to demonstrate his developing maturity ..."<sup>38</sup>

Additional support comes from Warner, he states<sup>39</sup> that the lower class child is more dependent on his mother than the child of other classes. His demands tend to be immediately satisfied through his mother, and he enjoys more freedom from adult restraint. The middle class child on the other hand, is punished for aggression and immediate satisfaction of urges; he is encouraged to discharge energies in more constructive channels that lead to social achievement. Such training ideally leads to the development of individual responsibility and autonomy.<sup>40</sup> Restraint, foresight, and the acceptance of superior and remote goals are some of the behavior patterns that are rewarded.

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<sup>38</sup>B. C. Rosen, "The Achievement Syndrome: A Psycho-cultural Dimension of Social Stratification," in Atkinson (ed.), op. cit., ch. 35.

<sup>39</sup>L. W. Warner, American Life - Dream and Reality (Chicago, Illinois: University of Chicago Press, 1955), p. 85 and 175.

<sup>40</sup>Ibid., p. 175.



All of these factors seem to indicate that the middle class child should learn to be more self-sufficient than the lower class child.

15. Factor Q<sub>3</sub> - Will Control and Character Stability

Hypothesis: There is a significant positive relationship between will control and socio-economic status.

Rationale: The deferred gratification that characterizes the middle class necessitates the development of strong will control (see hypothesis 3). If there is, as Merton says, a discrepancy between the cultural values and the opportunities existing in parts of the social structure for attaining these values, then it would seem that those individuals located in the parts of the social structure that have access to these values would possess more "character stability". An inability to achieve goals may result in detrimental affects on character stability. If so, since the lower class is at a disadvantage in regards to socially structured opportunities, it can be expected that the middle and upper classes have a significantly greater degree of character stability.

16. Factor Q<sub>4</sub> - Nervous Tension

Hypothesis: There is a significant negative relationship between nervous tension and socio-economic status.

Rationale: Much research in the area of social structure and personality has shown the lower class child exhibits more anxiety and nervous tension than the middle class

child.<sup>41</sup> This may be the result of concern about one's status and of repeated failure to attain culturally valued goals and thus to conform to cultural ideals.

Conclusion: Utilizing the work of Robin Williams, Robert Merton, and Raymond Cattell, a theoretical framework has been developed concerning the social class structure and its effects on personality factors. Briefly stated the theoretical orientation of this study is that: (1) Social class may be considered as a sub-culture. If personality formation is in line with cultural norms we may then expect to find variations in personality factors linked with socio-economic status. (2) There are areas of stress that allow us to consider the lower status position in American society as detrimental to achievement of culturally approved goals. The environment is seen as restrictive, punitive, and frustrating; this may have an effect on personality factors. In line with this theoretical development, specific hypotheses have been developed concerning the relationship between socio-economic status and the personality factors measured in Cattell's Sixteen Personality Factor Test.

Chapter Three will be concerned with the sample, the instruments used, and the analysis of data.

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<sup>41</sup>See N. H. Sewell and A. O. Haller, "Factors in the Relationship between Social Status and the Personality Adjustment of the Child," American Sociological Review, 4, 24, 1959; especially factors one and four.

### CHAPTER III

#### SAMPLE, INSTRUMENTS, AND ANALYSIS OF DATA

Sample: The data to be analyzed were collected in the spring and summer of 1957 under the direction of Dr. Archibald O. Haller in Lenawee County, Michigan. Lenawee County is an urban county located in the fringe area of a large metropolitan center. It is a county rich in agriculture and light industry. The geographic administrative and trade center is a city of about 20,000 people. A full range of the stratification order is found in the county. Several educational institutions of high level are located in or near the county.<sup>1</sup> The extensive development of the county's communications systems and its proximity to Detroit insures a good knowledge of the urban-industrial world and also insures that the county is not an isolated community. These factors at first may not appear to be pertinent ones in the study of personality factors and social status but, as we have seen in the second Chapter, many personality

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<sup>1</sup>The description of the county is taken from personal observation and from A. O. Haller, "The Occupational Achievement Process of Farm Reared Youth in Urban Industrial Societies," paper presented to the Fourth World Congress of Sociology, Milan, Italy, 1959. (To appear in Rural Sociology).

traits may depend on one's awareness of his position in the social structure and what this position means in terms of certain actions to be taken and opportunities that are available. Hence these factors of communication, education, proximity to a metropolitan center are mentioned for they insure the accessibility of knowledge required for awareness of one's position in the social structure.

A sample of 433 seventeen year old boys is available for analysis; this represents 88 percent of the total population of seventeen year old boys in this country. Since it is impossible to accurately place the category "farmer" on the North-Hatt occupations scale this group of 33 boys was dropped from the sample. After removing all subjects with incomplete data in the pertinent areas of analysis, a final sample of 345 subjects was obtained.

Those subjects who were not included in the analysis because of incomplete data probably do not bias the sample in such a way as to produce significant apparent relationships when in fact the relationships are not significant. In fact the bias may be in the opposite direction. Since lower status persons probably have a higher rate of absenteeism, and since they are known to drop out of school earlier than middle status persons, it is possible that this sample is slightly biased against the lower status persons. If such is the case, then any relationships found in the analysis

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of this study might well be larger if the data were complete on all subjects, and if the sample accurately represented the stratification order.

Instruments:

Socio-Economic Status Indices: Data on socio-economic status were compiled in the survey. The instruments used were a modified short form of Sewell's Socio-Economic Status Scale, father's occupation based on North-Hatt ratings,<sup>2</sup> and mother's and father's education.

Kahl and Davis have done a study comparing different status indices. They factor analyzed nineteen status indices and found all of these indices to be highly correlated because they all, in varying degrees, measure the same general thing. The first factor extracted from their analysis was the factor of education and occupation. The second factor proved to be that of the quality of the home and the residential area. They conclude that:

"...socio-economic status is an accurate though clumsy term: there is a composite of social and economic attributes that tend to cluster together, and we can measure the composite fairly well. For many purposes, it is practical to treat this composite as one dimension in the general factor. The best single index of it is an occupational scale."<sup>3</sup>

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<sup>2</sup>Interpolations of the occupations done by A. O. Haller. Leslie Silverman, and W. Roy Cook at the University of Wisconsin.

<sup>3</sup>J. A. Kahl, and J. A. Davis, "A Comparison of Indexes of Socio-Economic Status," American Sociological Review, 20, 1955, pp. 317-325.



The indices used in this study measure both of the factors found by Kahl and Davis. Father's occupation and father's and mother's education correspond to the first factor extracted in the above study; Sewell's scale which contains items on house quality, home facilities, and communication facilities in the home, corresponds to the second factor extracted by Kahl and Davis. These indices may thus be considered as some of the more accurate indices in use in sociological research.

It is maintained that since Sewell's scale is a multiple item index, and since it directly measures material possessions and indirectly may give an indication of value orientations, it is the most accurate index used in this study. Though consumption patterns depend to a great extent on income, consumption behavior also reflects personal values. Two people with equal pay checks may use them for different pleasures, depending on their value orientations.

On the basis of Kahl and Davis' study it may be expected that occupation and education are also useful indices. However, education, since it is not an easily perceived possession, is probably not used as often as these more visible indices in placing an individual in the social structure. Since education alone does not insure a high status position, it may not be as accurate as occupation or Sewell's Scale.



Appendix one, Table A presents the intercorrelation of the four indices used in this study. Table B contains similar information for a study in Jefferson County, Wisconsin, made during the period from 1948-1955. The differences that exist between these two tables are probably due to the differences in the instruments used (i.e., a different form of Sewell's Scale was used), the difference in samples, and the times at which the data were obtained.

On the basis of Kahl and Davis' study and a casual review of studies dealing with socio-economic status variables, it may be said that these indices are accurate in the measurement of socio-economic status and they are among the most traditionally used indices of socio-economic status.

Cattell's Sixteen Personality Factor Test: According to Cattell, the 16 PF Test is designed to give the maximum information in the shortest time about the most dimensions of personality. He notes that the test is not designed to measure specific neurotic conditions but attempts to cover the whole personality.<sup>4</sup>

The sixteen factors used are based on considerable research locating "source traits"; that is, traits that affect much of the overt personality. Unlike most

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<sup>4</sup>R. B. Cattell, D. R. Saunders, and G. Stice, Handbook for the Sixteen Personality Factor Questionnaire (Champaign, Illinois: Institute for Personality and Ability Testing, 1950), p. 1.

personality tests developed in the last thirty years the 16 PF test is based on factor analytic research. Cattell says:

"The present questionnaire meets a long-standing demand for a personality-measuring instrument properly validated with respect to the primary personality factors based on general psychological research. It is at present unique in (a) having every item of demonstrated saturation with respect to each of the factors which it sets out to measure and (b) the demonstration that each of the questionnaire factors corresponds to primary personality factors found elsewhere, notable in ratings in real-life behavior situations, objective tests, and clinical and social performances."<sup>5</sup>

Factors A, B, C, E, F, G, H, I, L, M, N, P have all been used and tested previously. The "Q" traits Q<sub>1</sub>, Q<sub>2</sub>, Q<sub>3</sub>, Q<sub>4</sub>, have so far been only identified in questionnaire and interest-attitude responses. The questionnaire aims to leave out no important aspect of the total personality.

Form B of the 16 PF Test was administered to the sample described above. The test consists of 187 questions which the subject answers "yes", "in between", or "no". The responses to the questions are scored and summed to yield a total score for each person on each of the personality factors.

In the following table the equalivalence coefficients, (coefficients of reliability between form A and form B,) are lower than the consistency coefficients (split-half

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<sup>5</sup>Loc. cit., p. 1.

## TABLE I

## FACTORS

**(B) COEFFICIENTS OF EQUIVALENCE (BETWEEN FORMS A AND B)**

## FACTORS

**Source:** R. B. Cattell, D. R. Saunders, and G. Stice, Handbook for the Sixteen Personality Factor Questionnaire (Champaign, Illinois: Institute for Personality and Ability Testing, 1950).

reliability) for at least two reasons: (a) more of the "best questions" have been put in form A, and (b) there are only twelve items which measure each factor.<sup>6</sup>

Personality factor B of Cattell's test is General Intelligence versus Mental Defect. In order to secure greater accuracy in assessing this factor the Culture Free Intelligence Test will be used. This test is a perceptual test "in which the relations with which intelligence operates arise among fundaments which are given in the immediate perception."<sup>7</sup> This test makes use of designs rather than particular objects or written words hence it is relatively free from a cultural bias. Perhaps the only two cultural influences present are (a) the working on a time schedule and (b) working without immediate rewards. Though these influences may affect the subject (and these can be virtually removed) they are motivational influences and not imposed cognitive conditions. Hence this test should not have in it the social class differences which are present in many tests. It is a more accurate measurement of cognitive ability, than many other tests used to measure intelligence.

As in all tests, however, there is still a practice effect in that one gains experience from taking intelligence

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<sup>6</sup>Ibid., p. 1.

<sup>7</sup>R. B. Cattell, and A. K. S. Cattell, Handbook for the Individual or Group Culture Free Intelligence Test (Champaign, Illinois: Institute for Personality and Ability Testing).

tests and has a higher score because of this practice. In this sample of high school boys we may assume that all have been exposed to approximately the same number of intelligence tests and the practice effect will not influence the results.

It is hoped that one of the "latent" effects of this study will be to introduce a personality test which will yield a more thorough analysis of the total personality than many of the personality tests now in effect. Two of the tests now prevalent in sociological research deserve some comment. Though Cattell distains to even mention the California Test of Personality in his book,<sup>8</sup> it is quite widely used in sociology. The objections raised against this test are that it is not based on behavioral ratings and the general areas tested (i.e., social adjustment, personal adjustment, etc.) do not yield a comprehensive view of personality structure. It is a test that may be used by relatively untrained people in a group situation; it may yield "adjustment" scores helpful to the educational system, but it does not possess the thoroughness and sophistication of Cattell's test.

The Minnesota Multiphasic (MMPI) has also been used in sociological research. It too, however, is not based on

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<sup>8</sup>R. B. Cattell, Personality and Motivation Structure and Measurement (Yonkers-on-the-Hudson: World Book Co., 1957).

factor research; it is, in fact, constructed to meet clinical concepts of the time. Though its instructions give keys for about a dozen differently labeled entities, Cattell reports<sup>9</sup> that factor analysis shows that there are only about five true dimensions. This test, since it is constructed in line with clinical concepts, tends to measure abnormality rather than to give a picture of a normal personality.

Cattell's 16 PF Test on the other hand, deals with independent dimensions of personality shown to run through the normal range. In such a test an individual is not assigned to a psychiatric category, but his makeup is expressed as a combination of source traits.<sup>10</sup>

It is necessary to make a brief reference to the labels that Cattell puts on these factors. Though many of them appear to be very similar to those terms that denote abnormal types of personality, they refer to a phenomena which may be abnormal only in the extremes. These source traits, Cattell has discovered, are those found in normal behavior. Though at first sight many of the factor names appear to be associated with types of mental illness or

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<sup>9</sup>Ibid., p. 109.

<sup>10</sup>Ibid., p. 166.

abnormal personalities, they actually represent factors in the normal range of behavior.

To avoid misleading and interpretative names, Cattell has developed an Universal Index (U.I.). Thus in the test used the sixteen factors have not only names, but laboratory letter indices, and a U.I. number. The letter index goes from A to P; the questionnaire data factors are labeled  $Q_1 \dots Q_n$ . In the U.I. the numbers are approximately in declining order of salience of the factors determined by a number of research studies and magnitude of variance. The 16 PF Test omits factors D (excitability), K (comention), and P (personality disintegration); no reason is given for omitting these factors, and apparently there is no factor J.<sup>11</sup>

Analysis of Data: Since the data were collected in 1957 they have been coded and punched on IBM decks. All of Cattell's tests had been converted into T scores. In order to analyze that portion of the data which has specific reference to this thesis, it was necessary to transfer data from several decks to compile all the needed material on one deck for computation. Having compiled a work deck, a duplicate deck was made in the standard MISTIC<sup>12</sup> format. This step was necessary because though the MISTIC deck contains exactly the same information as the work deck, the addition

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<sup>11</sup>Ibid., p. 705.

<sup>12</sup>Michigan State Integral Computer.

of overpunches which are necessary for MISTIC computation, hampers the use of the deck for standard card sorting procedures. As a result, the MISTIC deck is appropriate for MISTIC card input only and is not useful for any other type of data analyses.

In cases where the card data is set up in the proper format, a standard pre-wired plug board is used for the card input reader; this plug board is appropriate for most MISTIC library programs. The standard card format gives MISTIC such essential information as digit field size, sign and termination of measurement row in addition to the substantive information punched on the cards.

Besides the standard pre-wired plug board the requirements of the standard card format are:

1. No data may be located in columns 1-8 of the IBM cards. These columns may however be used for identification material, i.e., these columns may be punched with identification numbers, but no substantive data may be located there. If by chance one wishes to leave another eight columns blank then the standard plug board wiring must be changed. In any case, data may be on only 72 columns of the card. Assuming the use of the standard board, the data is started on column 9, and should be continuous to the end of the measurement row. The digit field size may vary both within a card and between cards. That is to say that the digit field need not be the same size across the card (variable one may have a four



digit field and variable two a two digit field). The digit fieldson one variable may vary from card to card (card one, variable one may have a three digit field, and card two, variable one may have a five digit field.)

2. As mentioned before MISTIC necessitates the addition of overpunches. All cards are Y overpunched on column one, this tells the computer to start reading a new card. Each digit field must likewise be terminated by an overpunch. There are two ways of doing this; the first and most economical in terms of card space is to overpunch the last digit of the digit field; the second way is to leave blank columns (with no data) between digit fields and put the overpunch in this column. This second method of designating digit field size decreases the number of variables that may be put on a card.

3. The last two or three cards which are fed into the card hopper must be completely blank.

Having compiled the data in this form, it was submitted to MISTIC to be run through the program K5-M. This program yields a triangular correlation matrix of product moment correlation, means, standard deviation, variance and co-variance.<sup>13</sup> In order to facilitate analysis and reading of the matrix the result tape of program K5-M was resubmitted to MISTIC with program M3-M. This program squares a matrix

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<sup>13</sup>The complete program may be found in Appendix II.

from its triangular representation. A parameter was chosen which would terminate each column of the matrix with an "N" and terminate the matrix with a "J". Several parameters are available for this program; this one was chosen because if further analysis of the data is to be done through MISTIC, there will be no need to re-run the data. The result tape can be resubmitted with a new program. It is important to note that program M3-M accepts only the first part of the result tape from K5-M: it will only square the matrix and will not accept the means, standard deviations, and variance-covariance matrix.

Criteria for accepting or rejecting hypotheses: In the following chapter the results of the data analysis will be presented. Some standard is needed to determine if a hypothesis may be accepted or rejected. The following criteria are purely arbitrary. If two or more indices of socio-economic status are significantly correlated with a specific personality factor in the predicted direction than the hypothesis will be accepted. The .05 level will be used as the critical level of significance. If the results show that one or none of the indices yields a correlation significant at the .05 level than the hypothesis will be rejected.

Conclusion: This chapter has defined the sample used in this study, the socio-economic status indices that were

used, Cattell's Sixteen Personality Factor Test, and the analyses of data.

The sample used consisted of 345 seventeen year old male high school students in Lenawee County, Michigan. Sewell's Socio-Economic Status Scale (modified short form), father's occupation, and father's and mother's education are used as the indices of socio-economic status; these are among the most reliable and most prevalent indices in use in sociological research. Though a thorough analyses of Cattell's theory of personality is not given, some background of the 16 PF test is presented. Finally a description of the work done in the analyses of data is given.

The next chapter will present the results of this study.

## CHAPTER IV

### RESULTS

Purpose of the Chapter: The purpose of this chapter is to put forth the results of the analysis of the data.

Table Two presents in tabular form the results of the preceding data analysis. It shows the correlation of four socio-economic status indices with each of the sixteen factors in Cattell's 16 PF Test.

Factor A, Cyclothymia vs. Schizothymia, is significantly related to two of the status indices used, father's occupation and Sewell's Socio-Economic Status Scale. The index of father's education approaches significance at the .05 level. The correlation with mother's education, though in the same direction as the other indices, is not significant. Thus we may accept the hypothesis that there is a significant positive relationship between socio-economic status and schizothymia.

As can be seen from the correlation table, intelligence, as measured by the Culture Free Intelligence Test, is significantly related to socio-economic status. All four indices yield a correlation that is significant beyond the .001 level. This result confirms other research done in this area which links intelligence to socio-economic status.



TABLE II

CORRELATIONS OF CATTELL'S SIXTEEN PERSONALITY FACTOR TEST AND  
FOUR INDICES OF SOCIO-ECONOMIC STATUS

Factor	Father's Occupation	Father's Education	Mother's Education	Sewell's SES Scale
A - Cyclothymia vs. Schizothymia	.124*	.099	.046	.175***
Culture Free I.Q.	.274***	.229***	.207***	.285***
C - Emotional Stability or Ego Strength vs. Dissatisfied emotion- ality	-.021	.056	.173**	.189***
E - Dominance vs. Submission	.155**	.084	-.003	.135*
F - Surgency vs. Desurgency	-.024	.037	.029	.082
G - Super Ego Strength vs. Lack of Internal Stand.	.148**	.055	.071	.164**
H - Adventurous Autonomic Resilience vs. Withdrawn Schizothymia	.184***	.149**	.149**	.250***
I - Emotional Sensitivity vs. Tough Maturity	-.017	-.050	-.081	-.011

L - Paranoid Schizothymia vs. Trustful Altruism	.034	.006	.049	.031
M - Hysterical Unconcern vs. Practical Concernedness	.041	.025	.027	.041
N - Sophistication vs. Rough Simplicity	.200***	.186***	.169**	.257***
O - Anxious Insecurity vs. Placid Self Confidence	-.055	-.055	-.075	-.015
Q1- Radicalism vs. Conservatism	.016	.078	.023	.142**
Q2- Independent Self Suffi- ciency vs. Lack of Resolution	.031	.032	.044	.137**
Q3- Will Control	.029	.009	.127*	.180***
Q4- Nervous Tension	.043	-.025	-.137**	-.073

\* Significant at the .05 level  $r \geq .105$ .

\*\* Significant at the .01 level  $r \geq .137$ .

\*\*\* Significant at the .001 level  $r \geq .175$ .

Formula for the calculation of the significant level of r:

$$r_t = \sqrt{\frac{F_t}{F_t + N_s - 2}} \quad \text{Computed from } F = \frac{r^2(N-2)}{1 - r^2} \quad (\text{Hagood and Price, Statistics for Sociologists, p. 554.})$$

where:  $r_t$  is the critical value of r for the significant level t

$F_t$  is the critical F value for significant level t at specified degrees of freedom;  $N_s$  is the smallest number in any one correlation.

Emotional Stability (Factor C) is significantly related to socio-economic status according to two indices used (mother's education and Sewell's Socio-Economic Status Scale). The correlation of Factor C with father's education is in the predicted direction but fails to reach significance. A slight negative correlation with the North-Hatt occupational scale does not fall into the direction predicted by the hypothesis. This correlation ( $r = -.021$ ) is so small that for all practical purposes it may be considered to indicate no relationship between Factor C and father's occupation.

It will be recalled that it was hypothesized that Factor E, Dominance vs. Submissiveness, would be in a curvilinear relationship with socio-economic status. An examination of the scattergram produced by the Tabulation Office reveals that the correlations are linear rather than curvilinear; therefore, we may reject parts A and B of the hypothesis. However, since Factor E correlates significantly with father's occupation and the Sewell Socio-Economic Status Scale (significant at the .01 and .001 level respectively) as a post factum interpretation we may say that there is a significant relationship between Dominance and socio-economic status. The index of father's education shows a relationship which is in the same direction but which is not significant. Mother's education as an index yields practically a zero correlation with Factor E.

Despite the fact that the theoretical argument for Desurgency (Factor F, Surgency vs. Desurgency) being



associated with lower status groups is very strong, this study yields very low correlations between Factor F and socio-economic status; Sewell's scale is the only index which approaches significance. Therefore, this thypothesis must be rejected. Cattell, in his writing, is characteristic of desurgency and says that the evidence indicates that exposure to punishment and deprivation, or a readiness to take on remote goals in respect to which failure is more likely than with short range goals.<sup>1</sup> These items seem to be characteristic of the lower class situation, and an inability to achieve long range goals. One explanation of the failure to establish a significant relation with lower class status may be suggested: the sample used is that of high school students, hence it is possible that these subjects have not yet encountered the full effects of their environment. This explanation is backed by Cattell who says that school leavers exhibit a steep trend to desurgency as they encounter difficulties of life.<sup>2</sup> On the other hand, it may be found that the lower class does not actually internalize the long range cultural goals as heavily as has been maintained here; if such is

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<sup>1</sup>R. B. Cattell, Personality and Motivation Structure and Measurement (Yonkers-on-the-Hudson: World Book Co., 1957), p. 117.

<sup>2</sup>Ibid., p. 117.

the case then there would be less failure and hence less desurgency than suspected.

It has been maintained that Super-Ego Strength (Factor G) is higher in those positions in the social structure in which there is congruence between ideal forms of behavior and reality. The correlation of socio-economic status indices with Super-Ego Strength are in the predicted direction; the correlations with father's occupation and the Sewell scale are both significant at the .01 level. These results allow us to accept the hypothesis that there is a significant positive relationship between Super-Ego Strength and socio-economic status.

In line with the theoretical orientation of this thesis it was predicted that individuals in a restrictive and punitive environment would, after repeated rebuffs, attempt to withdraw from the situation: this would be manifested in a greater degree of the factor called "inherent withdrawn schizothymia". The correlation of Factor H with the socio-economic status indices confirm the hypothesis that there is a significant positive relationship between this factor and socio-economic status. All four status indices show correlation significant at the .01 or .001 level. Thus the hypothesis may be accepted.

No relationship was predicted between Factor I (Emotional Sensitivity vs. Tough Maturity) and socio-economic status. While Table Two indicates that one of the correlations

reach an acceptable level of significance, it is interesting to note that all four indices indicate an inverse or minus correlation with Factor I. Though at the onset no grounds could be seen for formulating a directional hypothesis, there is one post facto interpretation which may account for the possible negative relationship. An examination of the loadings that Cattell lists for this factor reveals that the I minus person, or one characterized by Tough Maturity, would seem to be quite self reliant, courageous, and shrewd. It can be seen that these are some of the characteristics valued by society as those needed in order to advance oneself. If these are the characteristics a "successful" person must possess in order to achieve entrance to the higher position in the class structure then it should be expected that the "tough mature" person occupies higher status than the "emotionally sensitive". Or at least it may be expected that the characteristics of the I<sup>-</sup> person are to be found in those individuals who are upwardly mobile. Perhaps this sample unwittingly includes a good many mobile families. Cattell states that the emotionally sensitive person is likely to come from homes not in the lowest economic groups; and a study of groups at the extremes of the I factor reveal that the individuals at the emotionally sensitive end of the continuum contain a higher proportion of persons from families comfortably well-off for two or three generations. The tough mature individuals are scientists

and businessmen who have "come up the hard way".<sup>3</sup> Though these latter conclusions are based on a non-stastical study of only twenty persons, (ten at each extreme) it is possible that the post facto interpretation may prove correct. If so, we should then expect to find the I<sup>-</sup> individuals are upwardly mobile, or at least have not been settled in a higher status class for several generations.

It is not possible to accept the hypothesis that Factor L (Paranoid Schizothymia vs. Trustful Altruism) has a significant negative correlation with socio-economic status. Since a case can be made for considering the lower positions in the class structure as being detrimental to the attainment of cultural goals it was possible that the lower class might reveal a greater degree of paranoid schizothymia than members of higher classes. The results do not bear this out.

Turning to Factor M, it is seen that though the correlations are not only not in the direction predicted, but none have reached the level of significance. The hypothesis was made that there is a significant negative correlation between Hysteric Unconcern and socio-economic status. Since the results are not significant and not in the predicted direction, this hypothesis must be rejected.

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<sup>3</sup>Ibid., pp. 134-135.



At this time no post factum interpretation appears to explain this result.

Factor N, Sophistication vs. Rough Simplicity, is the third personality factor which is significantly related to all four socio-economic status indices at the .01 level or .001 level. The rationale for hypothesizing a positive relationship between Sophistication and socio-economic status was that the middle and upper classes have access to more facilities which tend to develop sophistication. It may also develop that the middle and upper class are more aware of, or concerned about, their position and hence put on the characteristic of being more aloof and cool in order to maintain their superior position. It is not being maintained that this concern is a form of anxiety, for status anxiety is negatively correlated with socio-economic status (other data from this study reveal an  $r = -.25$  between socio-economic status and status anxiety significant at the .001 level).

It was hypothesized that the factor of Anxious Insecurity (Factor O) would yield a negative correlation with socio-economic status. The results show that though the correlations are in the predicted direction, none of them reach the .05 level of significance. These correlations at least indicate that the lower class is more anxious than the middle or upper class; it is possible that this trait does not reach an acceptable level of significance because of



its generality. If there were some specific attitudes being measured (i.e., status anxiety) rather than the personality factor of Anxious Insecurity, then the correlation might increase.

It will be recalled that the factors labeled  $Q_1$ ,  $Q_2$ ,  $Q_3$ , and  $Q_4$ , are factors derived from attitude and opinion questionnaires. Because behavioral correlates are not available for these four factors the correlations of these variables with other factors will be reported to assist in the interpretation of the findings.

The hypothesis for the first of these factors stated that there would be no significant relationship between factor  $Q_1$  (Radicalism vs. Conservatism) and socio-economic status. Table Two shows that all four indices indicate a positive direction, however, only Sewell's scale shows a significant correlation; it is significant at the .01 level. This result shows then that the higher status classes tend to be more radical; a glance at the area of attitude and public opinion polls shows that this is contradictory to all expectations. Surveys have generally shown that the upper class has been more conservative in their attitudes toward social, economic, and political issues. The fact that all four indices are consistent in their direction, and the fact that the results are contrary to expectations, if one was predicting on the basis of previous studies, would seem to indicate that this factor is mislabeled and perhaps



doesn't measure radicalism or conservatism. Cattell says that this factor is associated with critical thinking ability, independent thought, discussion of serious problems of life, preference of intellectual activities, self analysis, analytically minded.<sup>4</sup> This factor is also low in priests, nurses, and semi-skilled workers; it is high in executives, directors, researchers, and the professions.<sup>5</sup> It is conceivable that this factor could be better labeled "Critical Thinking Ability"; a correlation of  $-.026$  reveals however, that this factor is not related to intelligence.

There are some grounds however, for labeling this as an "independence" factor, with additional connotations of withdrawal symptoms. It is correlated with Emotional Sensitivity (I), Paranoid Schizothymia (L), Hysteric Unconcern (M), and Nervous Tension (Q<sub>4</sub>). The  $r$ 's =  $.116$ ,  $.144$ ,  $.132$ ,  $.146$  respectively.<sup>6</sup>

The correlations of Factor Q<sub>2</sub> all show the predicted direction but only one of these, the correlation with Sewell's scale, is significant at the  $.001$  level. It is interesting to note that this self-sufficiency factor correlates  $.122$  with Factor G, or Super-ego Strength. Theoretically it should also correlate with Ego Strength (Factor C) since

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<sup>4</sup>Ibid., p. 209.    <sup>5</sup>Loc. cit., p. 209.

<sup>6</sup>See Appendix III for the intercorrelations of the Sixteen Personality Factor Test in the sample used in this study.

self-sufficiency should represent an ability to channel energies into constructive channels, and an ability to dissolve or control conflicting desires. A correlation of .026, however, shows that there is little correlation between the two.

Likewise, Will Control or Character Stability (Factor Q<sub>3</sub>) could be expected to correlate with self-sufficiency; since Q<sub>2</sub> and Q<sub>3</sub> have an inter-correlation of only .057, it appears that the two are distinct factors. It will be recalled that a significant positive relationship was hypothesized between socio-economic status and Factor Q<sub>3</sub>. Table One reveals that all of the correlations are in the predicted direction (though the correlation between father's education and Factor Q<sub>3</sub> is for all practical purposes zero) and that the correlations with mother's education and Sewell's scale reach significance at the .05 and .001 level respectively. Appendix Three shows this factor is related to Intelligence (CFIQ Test), Ego-Strength (Factor C), Super-Ego Strength (Factor G), Autonomic Resilience (Factor H) and Sophistication (Factor N). The  $r$ 's = .141, .324, .300, .354, and .140 respectively. This factor of Will Control is negatively correlated with Emotional Sensitivity (I), Anxious Insecurity (O) and Nervous Tension (Q<sub>4</sub>). These  $r$ 's = -.111, -.276, and -.328.

The factor of Will Control then seems to overlap slightly with Ego-Strength, and Autonomic Resilience in



particular. It is hypothesized that these factors measure the adjusted personality of the middle class child.

The hypothesis for Factor Q4 (Nervous Tension) stated that there is a significant negative relationship between Nervous Tension and socio-economic status. The results of this study tend to support this hypothesis and show consistency with previous research. Except for the index of father's education, the indices show negative correlations with the factor, Nervous Tension. One of these indices show a correlation which is significant at the .01 level. This is mother's education. In view of conclusions of previous research, it would be expected that the correlations of Nervous Tension with socio-economic status would be larger: the reason advanced for the low correlation with this factor (and the other three "Q" factors) is that these are items obtained from questionnaire data and not from behavior ratings as the other factors are.

Note that Nervous Tension has relatively high correlations with Surgency (F), Emotional Sensitivity (I), Paranoid Schizothymia (L), Hysteric Unconcern (M), and Anxious Insecurity (O).

The  $r$ 's = .304, .234, .269, .245, and .447 respectively. Relatively large negative correlations are found between Nervous Tension and Ego-Strength, (C), Autonomic Resilience (H) and Will Control ( $Q_3$ ). These  $r$ 's = -.371, -.158, -.328 respectively. This would seem to indicate

the first of these is the fact that the system is not a simple one, but a complex one, in which the various parts are interrelated and interdependent. The second is that the system is not a static one, but a dynamic one, in which the parts are constantly changing and evolving.

The third is that the system is not a closed one, but an open one, in which the parts are constantly interacting with the environment. The fourth is that the system is not a linear one, but a non-linear one, in which the parts are constantly interacting with each other in a complex, non-linear fashion. The fifth is that the system is not a deterministic one, but a probabilistic one, in which the parts are constantly interacting in a probabilistic fashion. The sixth is that the system is not a simple one, but a complex one, in which the parts are interrelated and interdependent. The seventh is that the system is not a static one, but a dynamic one, in which the parts are constantly changing and evolving. The eighth is that the system is not a closed one, but an open one, in which the parts are constantly interacting with the environment. The ninth is that the system is not a linear one, but a non-linear one, in which the parts are constantly interacting with each other in a complex, non-linear fashion. The tenth is that the system is not a deterministic one, but a probabilistic one, in which the parts are constantly interacting in a probabilistic fashion.

The system is a complex one, in which the parts are interrelated and interdependent. The system is a dynamic one, in which the parts are constantly changing and evolving. The system is an open one, in which the parts are constantly interacting with the environment.

The system is a non-linear one, in which the parts are constantly interacting with each other in a complex, non-linear fashion. The system is a probabilistic one, in which the parts are constantly interacting in a probabilistic fashion. The system is a complex one, in which the parts are interrelated and interdependent. The system is a dynamic one, in which the parts are constantly changing and evolving. The system is an open one, in which the parts are constantly interacting with the environment.

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a syndrome of factors in the area of Nervous Tension and Anxious Insecurity.

The results of this study show that high status position tends to be associated with the following personality factors:

Factor A - Cyclothymia  
 Culture Free IQ Test - Intelligence  
 Factor C - Emotional Stability or Ego Strength  
 Factor E - Dominance  
 Factor G - Super-Ego Strength  
 Factor H - Adventurous Autonomic Resilience  
 Factor N - Sophistication  
 Factor Q<sub>3</sub>- Will Control

The following factors, on the basis of this study are not related to socio-economic status:

Factor F - Surgency vs. Desurgency  
 Factor I - Emotional Sensitivity vs. Tough Maturity  
 Factor L - Paranoid Schizothymia vs. Trustful Altruism  
 Factor M - Hysteric Unconcern vs. Practical Concernedness  
 Factor O - Anxious Insecurity vs. Placid Self-Confidence  
 Factor Q<sub>1</sub>- Radicalism vs. Conservatism  
 Factor Q<sub>2</sub>- Independent Self-Sufficiency vs. Lack of Resolution  
 Factor Q<sub>4</sub>- Nervous Tension

A comparison of these two groups of personality factors reveals that those who occupy high socio-economic status positions are apt to be characterized by more cyclothymia, intelligence, resilience, and those factors that indicate a large degree of control over impulsive behavior. The lower status positions seem to be characterized by personality factors that indicate a tendency to withdraw from the situation, and a lack of internal standards. It is maintained that these differences in personality factors are in part

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a result of the lack of the opportunity in the lower status positions to learn the appropriate behavior and techniques that are necessary to the attainment of cultural goals (see Chapter Two).

On the basis of these results it is possible to accept the main hypothesis of this study: There is a significant relationship between socio-economic status and personality factors.

Conclusion: The results of this study have been presented in this chapter. From an examination of the zero order correlations presented in Table Two it appears that there are significant relationships between various personality factors and socio-economic status.



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## CHAPTER V

### SUMMARY AND SUGGESTIONS FOR FURTHER RESEARCH

Purpose of the Chapter: The purpose of this chapter is to summarize this study, to evaluate its results, and to suggest directions for further research.

Summary: An analysis of a sample of 345 seventeen year old male high school seniors reveals that there are significant relationships between specific personality factors and socio-economic status, Cattell's Sixteen Personality Factor Test and four indices of socio-economic status (father's occupation, mother's and father's education and Sewell's Socio-Economic Status Scale) were correlated. The results show that these personality factors were correlated with socio-economic status:

Factor A - Cyclothymia  
Culture Free Intelligence Test  
Factor C - Emotional Stability or Ego Strength  
Factor E - Dominance  
Factor G - Super-Ego Strength  
Factor H - Adventurous Autonomic Resilience  
Factor N - Sophistication  
Factor Q<sub>3</sub> - Will Control

From these results, it is clear that it is possible to accept the main hypothesis of this study: There is a significant relationship between socio-economic status and personality factors.

It is hoped that this study will be a step toward filling in a gap in two aspects of the study of the effects of social structure on personality. First, up to this point, has been the failure of research to establish a relationship between various aspects of the total personality and socio-economic status. It is true that much research has been done which has established the relationship between one or two surface traits and socio-economic status, or between a general area of personality, such as adjustment, and socio-economic status. But to the knowledge of this writer, there does not exist any research which attempts to link factors in the total personality to socio-economic status. In short, this research has tested an underlying assumption of other research in this area, and it has established that there is such a relationship between the total personality and socio-economic status.

Secondly, this research has helped to introduce into sociological research, a test of personality based on a solid empirical analysis of behavior; this test is designed to test the total, normal personality. It does not have the fallacies of testing the clinical "abnormal" personality or of testing unproven concepts. Cattell's 16 PF Test can certainly be considered to be one of the best personality tests yet devised; it is maintained that if the study of social structure and personality is to continue profitably, a test such as this one needs to be utilized.

Though the previous chapter showed that several personality factors were significantly associated with socio-economic status, it will be noted that the actual size of the correlations was "small". The largest correlation is approximately .30; a correlation of this size explains only nine percent of the variance of this item. This is in line with the statement made earlier in the thesis, that it is not claimed that socio-economic status is the sole determinant of personality factors. Rather, socio-economic status is seen as one of many determinants of personality factors. Other factors that enter in are biological, family, and individual experiences.

If further research should indicate that the lower status environment is restrictive and punitive as has been indicated in Chapter Two, then the questions may arise as to why the relationship between personality factors and socio-economic status is not larger; and secondly, what prohibits severe, overt class conflicts. Elsewhere in the world violent class struggles have led to civil wars. How does the United States possess stability of the stratification order and develop immunity to class conflicts?

Though in Chapter Two some areas of strain in the stratification order were pointed out they will briefly be mentioned again here. It was stated that there are inequalities in wealth and related objective advantages, and an awareness of these inequalities. There is the clash

between the principles of achieved status and freedom of opportunity and the status gained by birth or group membership. A third area of strain is seen in the tendency to establish high levels of aspiration at all status levels. Thus there is a continuous upward pressure in the American Society. Obviously, if these areas of strain were inflexible a severe blocking of mass ambitions would tend to upset the system. It appears then that there are certain compensations which help to stabilize the existing stratification order. Williams lists ten compensations that serve to stabilize the stratification order. This list is not intended to be exhaustive:<sup>1</sup>

1. The high level of real income and the relatively wide distribution of a "comfort" level of living.
2. The actual incidence of upward mobility and the attendant hope of "getting ahead".
3. The existence of a large middle-income, middle-prestige aggregate.
4. Widespread legal and political rights, nominally equalitarian.
5. The accessibility of public facilities and services.
6. The prevalence of equalitarian symbols and behavior patterns.
7. Interstratum heterogeneity in culture.
8. Mutual insulation of prestige classes.
9. Participation in common organizations and activities.
10. Persistence of a complex body of beliefs and values that lends legitimacy to the going system.

---

<sup>1</sup>Robin Williams, American Society (New York: Alfred A. Knopf, 1956), pp. 128-129.



Some additional factors may also be listed. If a person identifies with the middle class then perhaps he will not feel the effects of a detrimental position in the stratification order as much as an individual who identifies with his actual lower status group. Secondly, not all persons in a lower status group will perceive their position as being equally restrictive. Some individuals will have had some success in bettering their position in the stratification order, others may not perceive it as being a closed order. These items of identification, perception and success would theoretically help to relieve the lower status positions of a large amount the restrictions and punitive effects found in them.

Limitations of the Study: Turning to the specific sample used in this study there are several limitations which seem to indicate that if they were controlled, the relationship found between socio-economic status and personality factors might increase. First of all, this is a school boy sample. The individuals in this sample have spent the majority of their lives either in the home or in the school. It is not until this sample leaves the more or less protective environment of the school and home and meets some of the difficulties of life that a full awareness of the position they occupy develops. Once the sample experiences the full effects of their position in the stratification order it will be expected that the relationship between

the personality factors tested above and socio-economic status will increase. This theoretical explanation is supported by Cattell; he says that desurgency (Factor F) increases in school leavers as they encounter the difficulties of life. It is maintained by this writer that other personality factors will also be affected by a change in social environment, particularly one such as leaving school to assume responsibilities in the society.

Secondly, this sample may be biased in favor of middle and upper class persons. It has been pointed out that school leavers are mostly lower class children.<sup>2</sup> Therefore, in the school sample it is possible that the lower class is not represented in the same proportion as found in the general population of the United States. It is then conceivable that if the lower class was accurately represented the relationships found between personality factors and socio-economic status might be larger.

Thirdly, Warner points out<sup>3</sup> that the class system in the Mid-west is not as well developed or as stable as the class system found in the older regions of the East and South. Therefore, the question arises as to whether or not

---

<sup>2</sup>Arnold Green, Sociology (New York: McGraw Hill, 1952), ch. 22.

<sup>3</sup>Lloyd Warner, American Life-Dream and Reality (Chicago, Illinois: University of Chicago Press, 1953), p. 55.



a person in the more recently settled regions of the United States perceives his position in the stratification order as well or as strongly as the individual in the older regions of the country.

A fourth limitation of this study is a methodological one. It was intimated above that perception and identification of persons in the stratification order may serve as an intervening variable. This study contains no instruments designed to tap either perception of the stratification order or identification with one part of the order. If an instrument was used that measured one's perception of the stratification order, and how a position in it effected the opportunities available to achieve designated goals, or if an instrument measuring identification with a position in the stratification order were used, it is conceivable that certain personality traits might vary with variations in perception and identification.

Though the limitations of this study which have been pointed out above prevent it from being the "perfect" study, they do not destroy the validity of the study. If these limitations were corrected, then it would be expected that the relationship between personality factors and socio-economic status would increase. For, despite these limitations, it has been shown that significant relationships do exist between personality factors and socio-economic status.

Suggestions for Further Research: Implied in the discussion above are found various suggestions for further research. These may be summarized as:

1. A replication of this study needs to be made using an adult sample, or at least a sample which has been out of the protective environment of the home and school for some time. Once a person is on his own he may have a fuller awareness of the meaning of his position in the stratification order, and he will have been exposed to more of these effects which may result in a stronger relationship between personality factors and socio-economic status. Related to this suggestion is the need to use an adult sample in order to see if the relationships found in this study will increase or decrease. It is hypothesized that if an adult sample is used the relationships found in this study will increase. The rationale is that adults having been independent of a protective environment for some time will have a more accurate realization of their position in the stratification order and its significance for them. A replication of this study on the same subjects, now that they have been out of high school for three years, would be a good test of these hypotheses.

By using an adult sample it would also be possible to avoid a bias against the lower class which may be implicit in the samples of school children.

2. An additional area of research implied above is a study to determine if, first of all, the stratification order of the older sections of the country are significantly different from the more recently settled sections; and secondly, to determine if there is more consciousness of the position occupied in the stratification order in the older and "more developed" (in terms of class) sections of the country.

3. There needs to be developed an instrument to measure class or status identification. Neal Gross has taken a step in this direction by using three types of questions in an attempt to evaluate class identification. As was mentioned above, it may be found that the factor of identification has an effect on personality factors. The lower status person who strongly identifies with the middle class may not feel the effects of his actual lower status position as much as an individual whose status position and identification converge or synchronize.

4. Related to the problem of identification is the problem of perception of status position and opportunities to pursue cultural goals. If one perceives that his position is not hindering or obstructing the achievement of cultural goals then there may not be the same relationship of personality factors to socio-economic status as has been demonstrated here. It is hypothesized, that the perception

that socio-economic status does not hinder the achievement of life goals, will lower the relationship found between socio-economic status and personality factors. Hence an instrument to measure perception of position and opportunities needs to be developed.

Aside from these suggestions for further research several other aspects of the problem come to mind which would lead to further research in this area. In the discussion of the relationship between socio-economic status and Factor I, it was mentioned that this factor could be associated with upward mobility. It is conceivable that a study of mobile persons would reveal a different profile of personality factors; also a comparison of upward and downward mobile persons might reveal significant differences between these two groups.

It will be recalled that in Chapter One the writer speculated that though the study is concerned with an American sample, if the results are interpreted in terms of high or low position in a stratification order then the conclusions might be applied on a cross cultural basis. A study using the same instruments on a cross cultural basis is necessary to determine the accuracy of this generalization. There are, however, two necessary qualifications to be made concerning this generalization. The first concerns the discrepancy between goals and means. The relationship found

here between socio-economic status and personality may exist only where there is a discrepancy between the cultural goals and the socially structured means available to attain these goals. It is conceivable, particularly in a caste system, that cultural goals are not equally diffused to all levels of the stratification order. The second concerns the type of society groups. It is conceivable that a difference in the types of goals that characterize a society, particularly a difference between what I shall call "normative oriented" and "achievement oriented" goals, may have an effect on the personality traits prevalent in a group.

If a society is characterized by discrepancies between cultural goals and socially structured means then it is hypothesized that the same general relationship between status position and personality factors will be found. However, in a caste system, for instance, goals may pertain to specific castes and not to the entire society. That is to say, each caste may have goals which are unique to it, and members of that caste may not be able to or required to achieve the goals of other castes. If goals are relative to caste position and are not held to be desirable of everyone in the system, then the position occupied in the stratification order may not have the same effects on personality as a society that holds its goals desirable for achievement by everyone. Therefore if one

set of cultural goals is not equally diffused to all levels of the stratification order it may have an effect on research done in this area.

Secondly, the types of goals that are indicated as being desirable in a society may affect the types of personality responses in the society and the degree of discrepancy between the goals and the socially structured means. If the goals pointed out as desirable are "normative goals" (such as rules of behavior, and responsibilities, etc.) and not "achievement goals" (such as goals of success, and mobility, etc.) then there may not be a discrepancy between the goals and the means. In such a case, position in the stratification order may not effect personality factors. Thus this distinction between "normative" and "achievement" goals is a necessary consideration in research in the area of socio-economic status and personality. It is more likely that it is the "achievement" goals that contribute to certain types of personality factors being associated with status position. Therefore, it is probably necessary that the goals of the society being studied are "achievement" oriented if the same hypotheses and theoretical framework that are used in this study are to be used in a cross cultural study. In retrospect then it may be said that the American culture contains a great deal of emphasis on "achievement" goals; it is the inability to conform to or achieve these goals because of



one's position in the stratification order that appears to influence personality factors.

"Normative" goals, on the other hand, would not effect personality factors the same way because they are concerned with rules of behavior; conformity to this type of goal is not as likely to be as effected by status position as is conformity to "achievement" goals. Hence the relationship that is found in this study between socio-economic status and personality factors may not be found in a society characterized by "normative" goals.

Since there is no class difference in the ability to realize "normative goals" there should be no personality consequences stemming from them that coincide in the class status. "Achievement" goals, however, have limits as to how many of the population may obtain them; and as stated above there are certain techniques and means of obtaining goals that are not available to all social strata. Those that succeed are not the majority of the population. This inability to obtain "achievement" goals only affect personality factors, and since one's success is often socially structured these personality factors may be associated with position in the social structure.

Conclusion: \ This study has shown the existence of significant relationships between personality factors and socio-economic status. Further research in this area is needed before we are able to generalize these findings;



1. The first step in the process of identifying a problem is to recognize that a problem exists. This is often done by comparing current performance with a desired state or goal. If there is a discrepancy, a problem is identified.
2. The second step is to define the problem. This involves identifying the specific aspects of the problem that need to be addressed. It is important to be clear and concise in the definition of the problem.
3. The third step is to analyze the problem. This involves identifying the causes of the problem and the factors that contribute to it. This step is often the most difficult, as it requires a deep understanding of the problem and the ability to identify the underlying causes.
4. The fourth step is to develop a solution. This involves identifying the actions that need to be taken to address the problem. It is important to consider the feasibility of the solution and the potential consequences of each action.
5. The fifth step is to implement the solution. This involves putting the solution into action and monitoring the results. It is important to be flexible and willing to make adjustments as needed.
6. The sixth step is to evaluate the results. This involves comparing the actual results with the desired state or goal. If the results are not satisfactory, the process may need to be repeated.
7. The seventh step is to document the process. This involves recording the steps taken to identify and solve the problem. This documentation can be useful for future reference and for sharing the information with others.
8. The eighth step is to communicate the results. This involves sharing the results of the problem-solving process with the relevant stakeholders. This can help to ensure that everyone is aware of the problem and the solution.
9. The ninth step is to review the process. This involves reflecting on the process and identifying areas for improvement. This can help to ensure that the process is as effective as possible.
10. The tenth step is to celebrate the success. This involves acknowledging the efforts of the team and celebrating the successful resolution of the problem. This can help to boost morale and encourage future problem-solving efforts.

some suggestions concerning the direction that this research could take are made above. Suggestions for research concerning some of the specific personality factors are indicated in Chapter Four. In the final chapter some qualifications in the theoretical orientation used in this research are suggested; it may be necessary to consider these qualifications if this theoretical orientation is to be used for other studies.

It is hoped that this study has contributed to sociology by filling one of the gaps in sociological research and by introducing into sociology a personality test that may be appropriate for research in the area of social structure and personality.



## APPENDIX

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1. The first part of the document is a list of the names of the members of the committee who have been appointed to study the problem of the distribution of the public lands. The names are as follows:

2. The second part of the document is a list of the names of the members of the committee who have been appointed to study the problem of the distribution of the public lands. The names are as follows:

3. The third part of the document is a list of the names of the members of the committee who have been appointed to study the problem of the distribution of the public lands. The names are as follows:

4. The fourth part of the document is a list of the names of the members of the committee who have been appointed to study the problem of the distribution of the public lands. The names are as follows:

5. The fifth part of the document is a list of the names of the members of the committee who have been appointed to study the problem of the distribution of the public lands. The names are as follows:

6. The sixth part of the document is a list of the names of the members of the committee who have been appointed to study the problem of the distribution of the public lands. The names are as follows:

7. The seventh part of the document is a list of the names of the members of the committee who have been appointed to study the problem of the distribution of the public lands. The names are as follows:

8. The eighth part of the document is a list of the names of the members of the committee who have been appointed to study the problem of the distribution of the public lands. The names are as follows:

9. The ninth part of the document is a list of the names of the members of the committee who have been appointed to study the problem of the distribution of the public lands. The names are as follows:

10. The tenth part of the document is a list of the names of the members of the committee who have been appointed to study the problem of the distribution of the public lands. The names are as follows:

## APPENDIX I

TABLE A

INTER CORRELATIONS OF FOUR INDICES OF  
SOCIO-ECONOMIC STATUS-LENAWEE COUNTY, MICHIGAN (1957)

1	2	3	4	
1.000	.476	.431	.334	1 - father's occupation (North-Hatt Ratings)
.476	1.000	.678	.652	2 - Sewell's SES Scale
.431	.678	1.000	.544	3 - father's education
.334	.652	.544	1.000	4 - mother's education

TABLE B

INTER CORRELATIONS OF FOUR INDICES OF  
SOCIO-ECONOMIC STATUS IN JEFFERSON COUNTY, WISCONSIN (1948)

1	2	3	4	
1.000	.211	.270	.159	1 - father's occupation (North-Hatt Ratings)
.211	1.000	.620	.619	2 - Sewell's SES Scale
.270	.620	1.000	.458	3 - father's education
.159	.619	.458	1.000	4 - mother's education

The differences between the correlations in these two tables may be accounted for by two variables:

(1) though the samples used were comparable there are differences between them.

(2) slightly different instruments were used.

The point still remains, however, that the indices of socio-economic status used in this study all tend to measure the same general factor in varying degrees.

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## COMPUTER LABORATORY

Library Routine K5-M

**TITLE:** Product Moment Correlation, Means, Standard Deviation, Variances and Covariences, Card Input.

**TYPE:** Entire Program

**DURATION:** Input: 100 Cards/minute maximum  
 Computation:  $53.3n^2 + 60.2n$  Milliseconds  
 Output: 25  $p_1n(n+1)$  milliseconds - for correlation matrix  
 25 $(1+p_2)(5+n)n$  milliseconds - for mean, standard deviation and variance - covariance matrices.

where  $s$  = sample size

$n$  = number of variables

~~$k$  = Number of characters per row of the measurement tape~~

$p_1$  = number of characters with which each correlation coefficient is punched.

$p_2$  = number of characters with which each mean, standard deviation, variance and covariance is to be punched.

**NUMBER OF WORDS:** 272

**METHOD OF USE:** The program is read into the memory in the usual way followed by the parameter tape and lastly the data cards. Some computing is done after each row of the measurement matrix has been read into the memory. Since the correlation and variance-covariance matrices are symmetric, it is necessary to print only half the off-diagonal elements. The lower off-diagonal and diagonal elements are printed out row by row (this is equivalent, however, to printing out the upper off-diagonal and diagonal elements column by column). First the correlation matrix is punched out, scaled down by a factor of ten, followed by an N. Next the mean and standard deviations appear in two parallel columns. Finally, the variance-covariance matrix is punched out. A new problem can be begun by reading in new parameters.

**CAPACITY:** Thirty-four variables: there is no limit on the number of observations.

**PUNCHING OF THE TAPES:** For every problem four parameters are necessary. They are as follows:

1. Let "s" be the sample size. Put sS on the parameter tape.
2. Let "n" be the number of variables. Put nN on the parameter tape.



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3. Let "f" be the number of decimal places to which the correlation matrix is to be printed. Put fF on the parameter tape. If no print out is desired,  $f = 0$ .
4. Let "l" be the number of decimal places to which the means, standard deviations and variance-covariance matrices are to be printed. Put lL on the parameter tape. If no print out is desired,  $l = 0$ .

**CARD FORMAT:** The eighty column card is to be punched so that at most seventy-two columns contain data. The remaining eight columns are not read by this routine, and will commonly be used for identifiers, etc. The eight columns can be any eight columns, and need not be continuous. However, these eight columns must be plugboard wired so that four of them go to  $a_0 a_1 a_2 a_3$  of A and four more to  $q_0 q_1 q_2 q_3$  of A. That column which is wired to read into  $a_0$  will be called column C.

There is a standard plug board already wired which puts columns 1-4 into  $a_0$ - $a_3$ , 5-8 into  $q_0$ - $q_3$ , and 9-44 into  $a_4$ - $a_{39}$ , 45-80 into  $q_4$ - $q_{39}$ ;

The remaining 72 columns contain all fractions ( $-1 < x < 1$ ). Each datum is punched with the sign over the last column (least significant digit) or over a blank column following the least significant digit.

Furthermore, this convention can be interchanged on any or all cards, so that for some fields, the sign may be an overpunch over the last column, while in other fields it can be a punch over a blank column following the least significant digit. The number of digits in a field will be one through eleven digits. The format of no two cards need be alike, so that the first field, for example, on the first card can have five columns and the sign following, while the first field on the second card can have seven columns with the sign punched over the last column. Any number of columns can be left blank anyplace on the card.

A plus sign is indicated by a punch in the 12 row, and a minus sign, by a punch in the 11 row.

**TERMINATION CARD:** The last card for each row of the measurement matrix must have a punch in the 12 row of column C, that is, the column plug board wired to be input at  $a_0$ . Two blank cards should follow the last (and only the last) termination card in a deck.

**METHOD USED:** The product moment correlation coefficient is a measure of the degree of relation of two variables. It may be shown to range between +1 and -1. This program computes the matrix of product moment correlations between each pair of a set of variables.

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The product moment correlation coefficient may be written in terms of the observed data, as

$$r_{xy} = \frac{\sum (x - \bar{x}) (y - \bar{y})}{[\sum (x - \bar{x})^2 \sum (y - \bar{y})^2]^{1/2}}$$

For computational convenience this can be rewritten in terms of  $\sum x$ ,  $\sum y$ ,  $\sum xy$ , and  $s$  as

$$r_{xy} = \frac{s \sum xy - \sum x \sum y}{([s \sum x^2 - (\sum x)^2] [s \sum y^2 - (\sum y)^2])^{1/2}}$$

By using this form the observation points can be stored in the memory one at a time, the sums and product-sums being formed point by point. When the observations have all been read in the correlations are calculated and the matrix punched, for the variance-covariance it is necessary only to divide the numerator by  $s^2$ .

#### NOTES:

- (1) After the master tape is read in, a sum check is performed. If the master tape has been read in incorrectly, ten hexadecimal characters will be punched. The master tape should then be read into the memory again.
- (2) Correlations with constants are assumed to be zero in all cases. In order to avoid a division hangup the correlation between a constant and itself will be zero.

## APPENDIX III

## INTER CORRELATIONS OF THE 16 PF TEST

A	CFIQ	C	E	F	G	H	I	L	M	N	O	Q <sub>1</sub>	Q <sub>2</sub>	Q <sub>3</sub>	Q <sub>4</sub>	Factors
1.00	.048	.009	.099	.120	.159	.210	-.006	.084	.036	.059	.149	.026	.084	.032	.134	A
	1.00	.151	.162	.150	.188	.157	-.020	.034	-.016	.173	.063	-.026	.157	.141	.025	CFIQ
		1.00	.013	.028	.070	.232	-.003	.098	-.039	.081	.177	.009	.026	.324	.371	C
			1.00	.204	.023	.155	.133	.082	.149	.157	.161	.024	.109	.010	.164	E
				1.00	.089	.129	.067	.262	.011	.109	.167	.061	.052	.015	.304	F
					1.00	.345	.012	.213	.105	.200	.031	.008	.122	.300	.007	G
						1.00	-.025	.011	.009	.191	.202	.016	.026	.354	.158	H
							1.00	.134	.169	.017	.170	.116	.157	.111	.239	I
								1.00	.079	.102	.253	.144	.157	.027	.269	L
									1.00	.025	.050	.132	.101	.092	.245	M
										1.00	.013	.079	.093	.140	.055	N
											1.00	.079	.096	.276	.447	O
												1.00	.153	.060	.146	Q <sub>1</sub>
													1.00	.057	.105	Q <sub>2</sub>
														1.00	.328	Q <sub>3</sub>
															1.00	Q <sub>4</sub>

## THE 16 P. F. TEST

NAME \_\_\_\_\_ TODAY'S DATE \_\_\_\_\_  
 First Middle Last

SEX \_\_\_\_\_ AGE \_\_\_\_\_ OTHER FACTS \_\_\_\_\_  
 (Write M or F) (Nearest year) (Address, Occupation, or School, as instructed)

**DIRECTIONS:** You are attempting here to say what kind of a personality you have. There are no "right" answers or "wrong" answers, for each person's nature is different. Begin at question one and read on at your own rate indicating by a pencil mark which answer to each is true for you. Do not spend time "pondering" on questions. You should answer each in about ten seconds and so take about thirty minutes on Form A and the same on Form B.

The **EXAMINER** will tell you (a) whether to mark the chosen answer by circling it on this question sheet or whether to mark on a separate "machine score sheet" given to you; also (b) whether to use two alternatives only (Yes and No) or three (Yes, No, In Between). If you use three you should mark the middle answer only when it is quite impossible to say Yes or No—perhaps once in every two or three questions.

If you do not understand instructions ask now. **BE SURE TO ANSWER EVERY QUESTION** (guess an answer if you are not absolutely sure).

**DO NOT WRITE BELOW THIS LINE.**

Source Trait	A	B	C	E	F	G	H	I	L	M	N	O	Q1	Q2	Q3	Q4
Form B Raw Score																
Form B Standard Score																
Form A + B Raw Score																
Form A + B Standard Score																

P 10  
R 9  
O 8  
F 7  
I 6  
L 5  
E 4  
3  
2  
1

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.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

1. Do you think it is a good thing for people to understand themselves as clearly as possible?	Yes	In Between	No	1
2. Do you think that you are able to perceive your own personality as calmly and realistically as most other people do theirs?	Yes	In Between	No	2
3. Are you ever concerned about being alone in old age?	Yes	In Between	No	3
4. Do you practically always succeed in keeping the expression of your feelings under very good control?	Yes	In Between	No	4
5. Would you rather be: (a) a house builder? (b) an actor?	(a)	Uncertain	(b)	5
6. Have you ever been told that you talk in your sleep?	Yes	In Between	No	6
7. Are you well described as a happy-go-lucky, nonchalant person?	Yes	In Between	No	7
8. Are you troubled by useless stray thoughts running through your mind?	Yes	In Between	No	8
9. Would you rather be a professional chemist than a banker (if you did not have your present job, and salaries were equal)?	Yes	Uncertain	No	9
10. Do you think that divorce should be subject to fewer old-fashioned restrictions and become more a matter of mutual consent?	Yes	In Between	No	10
11. Would you prefer the job of a life insurance salesman to that of a farmer (other things being equal)?	Yes	Uncertain	No	11
12. Do you like to be scrupulously correct in manners and social obligations?	Yes	In Between	No	12
13. Do you feel that the applications of atomic energy have greater likelihood of affecting your future: (a) for better? (b) for worse?	(a)	In Between	(b)	13
14. Do you still spend some of your time asking yourself what the ultimate purposes of life may be?	Yes	In Between	No	14
15. Are you sometimes troubled by feelings of guilt or remorse over comparatively unimportant matters?	Yes	In Between	No	15
16. As the chairman of a committee trying to get some job done would you: (a) hear everybody's viewpoint thoroughly expressed? (b) dispense with hearing people who have unimportant objections?	(a)	In Between	(b)	16
17. Do you think that a man should be socially conventional instead of insisting on being himself all the time?	Yes	In Between	No	17
18. Can you generally solve a problem better by: (a) studying it out alone? (b) discussing it with others?	(a)	In Between	(b)	18
19. Would you rather read a book on: (a) Great Religious Faiths? (b) National Political Organizations?	(a)	Uncertain	(b)	19
20. Are you always careful and considerate that you do not hurt people's feelings, e.g., by being rough on their pet ideas?	Yes	In Between	No	20
21. Do you find it necessary to change your position frequently while compelled to sit and listen to a rather "long winded" speaker?	Yes	In Between	No	21
22. When you disagree with anyone in an argument are you nevertheless generally unwilling to bet good money that you are right?	Yes	In Between	No	22
23. Do you "suffer fools gladly," i.e., do you believe in sparing the feelings of stupid and unreasonable people instead of "putting them on the spot"?	Yes	In Between	No	23
24. Do you readily complain to a waiter or to the manager if you are served bad food in a restaurant?	Yes	In Between	No	24
25. "Dog" is to "bone" as "cow" is to.....?	Milk	Grass	Tree	25
26. Do you think the world would be a better place if people demanded less to live their own individual lives and accepted more regulation by the crowd?	Yes	In Between	No	26
27. Do you think that society would be better if guided more by rational thinking and less by sentimental and traditional considerations?	Yes	In Between	No	27
28. Are you more annoyed by a person who: (a) chews gum loudly? (b) drives inconsiderately?	(a)	In Between	(b)	28

29. If you needed immediately a pair of tennis shoes, skates, etc., and you knew a friend who had a pair but was not there to give you permission, would you borrow them without permission? Yes **In** Between No 29
30. Do you get irritated by people who deliberately adopt affected, "superior" attitudes? Yes **In** Between No 30
31. Do you go about your business:  
 (a) rushing actively from one thing to another, e.g., eating fast, walking fast, etc? **In**  
 (b) in a deliberate, methodical fashion? (a) Between (b) 31
32. Do you believe the world would be better run if we depended more on our emotions and less on logical reasoning? Yes **In** Between No 32
33. Do you feel cramped when you have to work on a job as one of a team of people? Yes **In** Between No 33
34. Are your nerves sometimes "on edge" so that particular sounds, e.g., a squeaky hinge, are unbearable and "give you shivers"? Yes **In** Between No 34
35. Is your motto to:  
 (a) "Laugh and be merry"? **In**  
 (b) take matters of everyday life with proper seriousness? (a) Between (b) 35
36. Are you a person who is not much given to cracking jokes and telling stories to your friends? Yes **In** Between No 36
37. Would you rather be:  
 (a) a printer?  
 (b) an advertising man and promoter? (a) Uncertain (b) 37
38. Would you rather:  
 (a) see a good historical movie? **In**  
 (b) read a book by H. G. Wells or some modern essayist? (a) Between (b) 38
39. Do you often take medicines on your own rather than on the advice of a doctor? Yes **In** Between No 39
40. For a hobby would you rather belong to:  
 (a) a photographic club?  
 (b) a debating society? (a) Uncertain (b) 40
41. Do your moods change very little so that you can trust your interests to stay firm? Yes **In** Between No 41
42. Are you a person who generally perseveres and "sticks to it" when faced by unpleasant obstacles? Yes **In** Between No 42
43. Do you get unreasonably nervous in a tunnel or subway or looking out of a high building:  
 (a) practically never? **In**  
 (b) usually? (a) Between (b) 43
44. Do you suspect that your friends think you are a difficult person to get to know really well? Yes **In** Between No 44
45. Do you sometimes have a fit of jitters, perhaps with trembling or sweating, for no obvious reason? Yes **In** Between No 45
46. Do you find that you have:  
 (a) very little difficulty or  
 (b) great difficulty, in starting up conversation with people? (a) Between (b) 46
47. In social situations are you bothered by self-conscious shyness? Yes **In** Between No 47
48. Is "find" a better opposite to "reveal" than "hide" is? Yes **In** Between No 48
49. Which of the following pairs of occupations would you find most congenial if salary and other conditions were about the same?  
 (a) Farmer and Artist?  
 (b) Certified Public Accountant and Life Insurance Salesman? (a) Uncertain (b) 49
50. Does it embarrass you to have servants waiting on you? Yes **In** Between No 50
51. If you had your life to live over would you:  
 (a) want it the same? **In**  
 (b) make some major changes? (a) Between (b) 51
52. Do you like to be in a situation with plenty of excitement and bustle? Yes **In** Between No 52
53. Do you tend to get over-excited and easily "rattled" in exciting situations? Yes **In** Between No 53
54. Where there is a disagreement between (a) the theory of evolution and (b) the Old Testament, with which would you side? (a) Between (b) 54
55. Do you sometimes say things on the spur of the moment that you later regret? Yes **In** Between No 55

56. In a factory would you rather be:  
 (a) in charge of mechanical matters? In  
 (b) a specialist in interviewing and hiring people? (a) Between (b) 56
57. Which would you rather see in our society:  
 (a) greater freedom in regard to divorce? In  
 (b) stricter observance of Sunday as a day of rest? (a) Between (b) 57
58. Are you easily disturbed from your work by distractions and daydreams? In  
 Yes Between No 58
59. Would you rather work as:  
 (a) an engineer? In  
 (b) a social science teacher? (a) Uncertain (b) 59
60. If you had a good moral reason, could you lie with a perfectly straight face? In  
 Yes Between No 60
61. Which is more valuable in a person:  
 (a) a strong will power? In  
 (b) an ingenious imagination? (a) Uncertain (b) 61
62. Do you sometimes feel discouraged because very little in life seems to work out the way it should? In  
 Yes Between No 62
63. Do you stop to think about the full consequences of your acts upon your associates:  
 (a) infrequently? In  
 (b) almost always? (a) Between (b) 63
64. Would you prefer to:  
 (a) have a vacation at a well-attended resort? In  
 (b) rent a cottage away from the beaten track? (a) Between (b) 64
65. Are you touchy and easily upset about social remarks and acts of acquaintances that concern yourself:  
 (a) never? In  
 (b) often? (a) Between (b) 65
66. Would you rather vote for:  
 (a) sterilization of mental defectives; or In  
 (b) abolition of the death penalty for murder? (a) Between (b) 66
67. Are you given to acting on impulses of the moment which later land you in difficulties? In  
 Yes Between No 67
68. Do you find it difficult to turn your back on your work and relax? In  
 Yes Between No 68
69. When you have the choice of the following, which do you generally choose to read:  
 (a) a good classic, i.e., a famous but perhaps difficult book? In  
 (b) a "cheap" but exciting story? (a) Between (b) 69
70. In social groups are you sometimes overcome by feelings of loneliness and inadequacy? In  
 Yes Between No 70
71. Do you get so annoyed in a discussion that you can hardly trust yourself to speak:  
 (a) practically never? In  
 (b) often? (a) Between (b) 71
72. Have you ever pulled down notices that forbid you to do this and that? In  
 Yes Between No 72
73. Which word on the line to the right does not belong with the rest? Hum Speak Whistle 73
74. Would you rather:  
 (a) try to solve riddles and other puzzles? In  
 (b) play a game requiring skillful control of hand and eye? (a) Between (b) 74
75. Concerning your ability to make the right impression on people are you:  
 (a) unsure of yourself? In  
 (b) quite self-confident? (a) Between (b) 75
76. Do you crave excitement in times of monotony? In  
 Yes Between No 76
77. Do you think that more difficulties arise in society today through:  
 (a) lack of goodwill and religious ideals? In  
 (b) ignorance and lack of scientific ideas about life? (a) Between (b) 77
78. Have you on some occasions been called a conceited person? In  
 Yes Between No 78
79. Do you tend to suspect the honesty of people who are more friendly than you would naturally expect them to be? In  
 Yes Between No 79
80. Are you more annoyed by a person who:  
 (a) happens to be unavoidably late and forces you to wait? In  
 (b) tells doubtful jokes which embarrass the company? (a) Between (b) 80

81. In conversation do you like (a) to deal thoroughly with one topic at a time or (b) to bounce from topic to topic? .....	In			
	Between	(b)	81	
82. In your own job or field of work do more difficulties arise from men who:	In			
(a) are constantly changing and meddling with methods that are already O. K.?	(a)	Between	(b)	82
(b) refuse to employ up-to-date methods? .....				
83. Do you think that much so-called progressive education is less sound than the old adage "spare the rod and spoil the child"? .....	In			
	Yes	Between	No	83
84. Are you a meditative person given to solving things for yourself instead of acting on conventional rules? .....	In			
	Yes	Between	No	84
85. Do you enjoy "practical jokes"? .....	In			
	Yes	Between	No	85
86. Are you sometimes burdened by the number of your responsibilities and interests? .....	In			
	Yes	Between	No	86
87. Would you like to see in the newspapers:	In			
(a) more discussion on fundamental social issues in the modern world?	(a)	Between	(b)	87
(b) better coverage of all local news? .....				
88. Do you feel that you have an unreliable memory? .....	In			
	Yes	Between	No	88
89. Do you value more an individual who:	In			
(a) is brilliantly intelligent?	(a)	Between	(b)	89
(b) has a strong sense of duty toward the things in which he believes? .....				
90. Do you think that the chief aim of the churches should be:	In			
(a) to offer a spiritual meeting place with God?	(a)	Between	(b)	90
(b) to promote individual moral tendencies? .....				
91. If you marry would you prefer a spouse who:	In			
(a) is fundamentally idealistic in attitude toward life?	(a)	Between	(b)	91
(b) can command admiration from others? .....				
92. Do you think that it is not always possible to get things done by gradual, reasonable methods and that sometimes force must be used? .....	In			
	Yes	Between	No	92
93. Do you think that questions of personal dignity should come before duties, e.g., that it is wrong for a man to be publicly berated by his superior for failure of duty? .....	In			
	Yes	Between	No	93
94. Do you find that your interests tend to change rather rapidly? .....	In			
	Yes	Between	No	94
95. Do you tend readily to forget annoying mistakes in your past life? .....	In			
	Yes	Between	No	95
96. Do you often feel quite fatigued when you get up in the morning? .....	In			
	Yes	Between	No	96
97. Do you think that inherited, racial characteristics have more real importance in shaping the individual and the nation than most people are ready to admit? .....	In			
	Yes	Between	No	97
98. Do you generally make a point of saying a word or two to the speaker or whoever is the important person at a reception to which you are invited? .....	In			
	Yes	Between	No	98
99. If you disagree with the teacher or lecturer in a class do you generally (a) openly express your difference of opinion or (b) keep it to yourself? .....	In			
	(a)	Between	(b)	99
100. Are you troubled in your career and social life by a sense of inferiority (for which there is generally no real basis)? .....	In			
	Yes	Between	No	100
101. Does radio that contains commercial advertising seem to you:	In			
(a) tolerably satisfactory?	(a)	Between	(b)	101
(b) very annoying? .....				
102. When you pick up a gun you know is loaded, do you feel uneasy or jittery? .....	In			
	Yes	Between	No	102
103. When you walk down the street or enter a store are you embarrassed by people watching you? .....	In			
	Yes	Between	No	103
104. Which one of the three words on the line at the right does not belong with the other two? .....	North	East	Down	104
105. Have you ever been a sleep walker? .....	In			
	Yes	Between	No	105
106. "Clock" is to "time" as "tailor" is to .....? .....	Suit	Cloth	Scissors	106
107. Which of the two following newspaper headlines would you be most likely to read:				
(a) Religious leaders discuss reconciliation of teachings?	(a)	Uncertain	(b)	107
(b) Improvements noted in market conditions? .....				
108. Do you think that it is mainly the fear of being caught that keeps the majority of people from dishonest or criminal acts? .....	In			
	Yes	Between	No	108





136. Do you find yourself disheartened rather than helped by the kind of criticism many people offer? ..... In  
Yes Between No 136
137. Are you more sensitive than most people to the artistic quality of your surroundings? ..... In  
Yes Between No 137
138. Do you think the aim of religion should be one of:  
(a) bringing out practical moral and charitable tendencies? ..... In  
(b) producing spiritual insight and a sense of deep communion? ..... (a) Between (b) 138
139. Do upsetting circumstances or sights move you to tears:  
(a) very rarely? ..... In  
(b) rather easily? ..... (a) Between (b) 139
140. Do your spirits stay up no matter how numerous your troubles? ..... In  
Yes Between No 140
141. In everyday situations do you tend to be:  
(a) pretty well aware of all that is going on around you (e.g., what various people are talking about and doing)? ..... In  
(b) wrapped up in your own business? ..... (a) Between (b) 141
142. Are you considered to be critical of other people:  
(a) very little? ..... In  
(b) to a high degree? ..... (a) Between (b) 142
143. Do you make special plans whenever possible to avoid waste of time between jobs? ..... In  
Yes Between No 143
144. Do you have difficulty in falling asleep easily at bedtime? ..... In  
Yes Between No 144
145. Do you check the condition in which personal property is returned by or to you? ..... In  
Yes Between No 145
146. Do you think that the intensity of your feelings, relative to those of most people is:  
(a) only moderate? ..... In  
(b) strong or excessive? ..... (a) Between (b) 146
147. If Alice is my brother's cousin, what relation is Alice's mother to me? ..... Cousin Sister Aunt 147
148. Do you feel that modern life has too many frustrating situations:  
(a) no? ..... In  
(b) very definitely? ..... (a) Between (b) 148
149. Do you mind selling things or soliciting funds for a cause in which you are interested:  
(a) rather like doing so? ..... In  
(b) intensely dislike doing so? ..... (a) Between (b) 149
150. Do you always try to be polite and socially correct, preferring other people to be the same? ..... In  
Yes Between No 150
151. Do you consider that the question "Does modern industry and the machine age dull most people's appreciation of beauty?" is as vital as any practical question of today? ..... In  
Yes Between No 151
152. Do you feel rather poorly adjusted socially, so that you never seem to get on as well as you should? ..... In  
Yes Between No 152
153. If a person behaves in a dictatorial and domineering fashion do you:  
(a) simply avoid him? ..... In  
(b) seek an occasion to "have it out with him"? ..... (a) Between (b) 153
154. Are you a person who tends to be rather slow in expressing your ideas in words, compared with the average? ..... In  
Yes Between No 154
155. Are you a sound sleeper not given to walking or talking in your sleep? ..... In  
Yes Between No 155
156. Do you think that in matters of art and music there should be:  
(a) a free production of good or poor music according to popular demand? ..... In  
(b) more control, by acknowledged experts, of what shall be supplied to the public? ..... (a) Between (b) 156
157. Do you think it is more important for a man to make a good income and look after his family well than to spend time thinking about the ultimate values of life? ..... In  
Yes Between No 157
158. Do you think that everyone on occasion will tell a lie to keep himself out of trouble? ..... In  
Yes Between No 158
159. Do you enjoy the kind of humor in the usual radio vaudeville show? ..... In  
Yes Between No 159
160. Are you less interested in being practical and useful than in cultivating artistic tastes and spiritual inclinations? ..... In  
Yes Between No 160
161. Do you in most undertakings:  
(a) just do what comes along, as most of the crowd does? ..... In  
(b) set yourself a goal of attainment that is quite hard? ..... (a) Between (b) 161

162. Do you disagree with the view that there are far too many people ready to follow fashions, fads, and wild goose chases, and that we need a more critical and cautious public? ..... In  
Yes Between No 162
163. Do you often avoid meeting people on the street because you are not in the mood for conversation? ..... In  
Yes Between No 163
164. In a friend or associate with whom you had to work would you prefer:  
(a) brilliance, charm, and desire to please? ..... (a) Uncertain (b) 164  
(b) stability, loyalty, and rapid, dependable work? ..... In
165. Do you think that in art, music, and literature there is too much eccentric, exotic, Bohemian stuff being produced at the present time? ..... Yes Between No 165
166. If you are annoyed by something do you:  
(a) keep it to yourself? ..... In  
(b) find it absolutely necessary to talk to somebody to "let off steam"? ..... (a) Between (b) 166
167. Do you get as many ideas from reading a book as from discussing it with others later? ..... In  
Yes Between No 167
168. Do you remember names of people fairly well? ..... Yes Between No 168
169. Would you be willing to spend extra money in order to keep up with the fashions? ..... In  
Yes Between No 169
170. Are you generally patient when someone delays you? ..... Yes Between No 170
171. Would you rather be:  
(a) a business office manager? ..... (a) Uncertain (b) 171  
(b) an architect? ..... In
172. Looking back, do you think that your parents (or guardians) were very reasonable in the extent and manner of requiring and enforcing obedience? ..... Yes Between No 172
173. "April" is to "March" as "Tuesday" is to .....? ..... Monday Wednesday Friday 173  
In
174. Do you tend to be depressed if your opinions differ from those of your acquaintances? ..... Yes Between No 174
175. "Black" is to "grey" as "pain" is to .....? ..... Discomfort Wound Illness 175  
In
176. Do you sometimes feel compelled to count things for no particular purpose? ..... Yes Between No 176
177. Which word on the line at the right does not properly go with the others? ..... Wise Lovely Kind 177
178. Which social measure is more desirable:  
(a) abolition of alcohol and tobacco? ..... In  
(b) the routine vaccination of nursery school children against infectious diseases? ..... (a) Between (b) 178
179. Have you ever been active in organizing a club, team, or similar social group? ..... Yes Between No 179
180. When you are in a small group cooperative undertaking do you often find it necessary to fill in for the leader? ..... In  
Yes Between No 180
181. In your social life do you enjoy having:  
(a) a large circle of acquaintances? ..... In  
(b) just a few close friends? ..... (a) Between (b) 181
182. Which of these things is not the same as the others? ..... Dog Stone Cow 182  
In
183. Are you annoyed by conceited people who claim to be superior to others? ..... Yes Between No 183
184. Do you think there are very few people who are so fixed in their ideas that it is a waste of time to reason with them? ..... In  
Yes Between No 184
185. Would you generally rather spend your vacation in:  
(a) foreign countries? ..... In  
(b) your native land? ..... (a) Between (b) 185
186. Do you have periods of feeling depressed, miserable, and in low spirits for no sufficient reason? ..... In  
Yes Between No 186
187. Do you feel that this questionnaire has asked important things about your personality? ..... In  
Yes Between No 187

## Test of g: Culture Free Scale 3A

Prepared by R. B. Cattell and A. K. S. Cattell

Name \_\_\_\_\_ Sex \_\_\_\_\_  
First Last (Write M or F)

Name of School (or Address) \_\_\_\_\_

Today's Date \_\_\_\_\_ Class (or Form) \_\_\_\_\_

Date of Birth \_\_\_\_\_ Age \_\_\_\_\_  
Month Day Year Years Months

Test	Score	Remarks
1		
2		
3		
4		
		Total Score

M. A. \_\_\_\_\_

C. A. \_\_\_\_\_

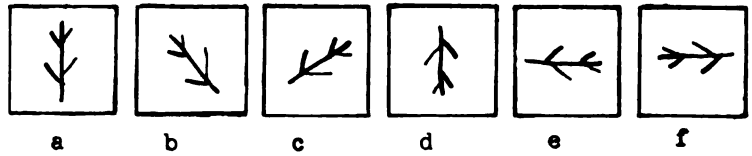
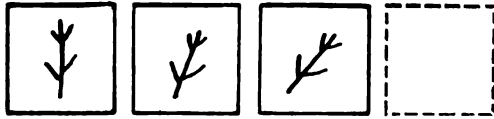
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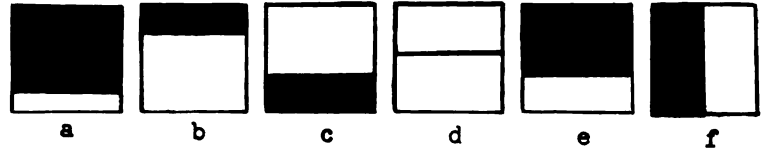
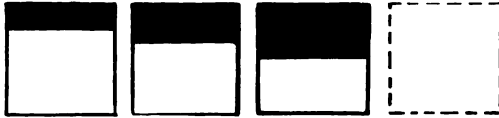
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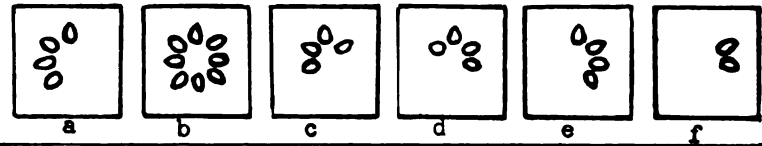
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**TEST 1****EXAMPLES****2. ANSWERS**

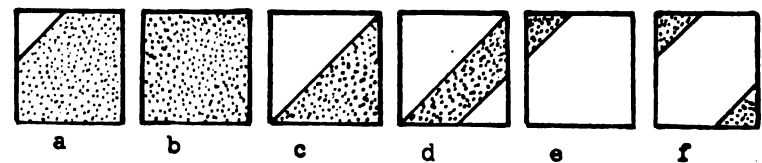
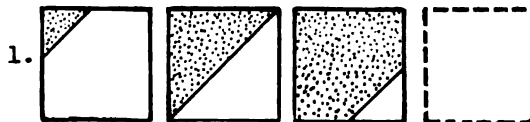
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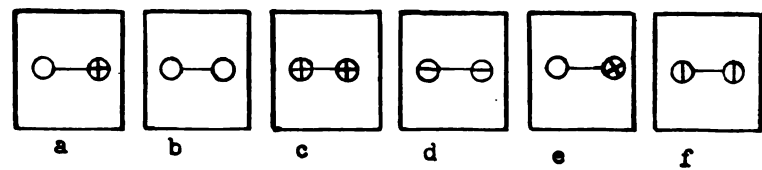
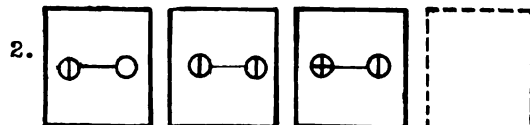
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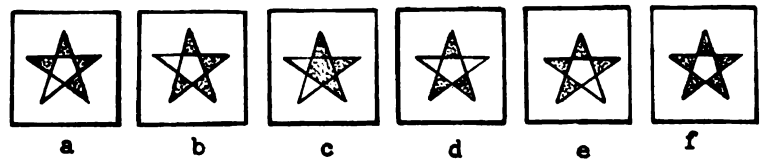
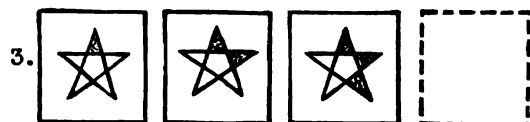
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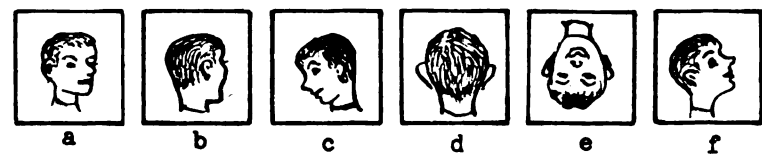
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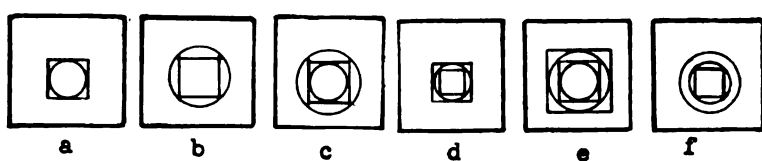
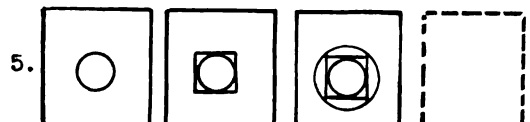
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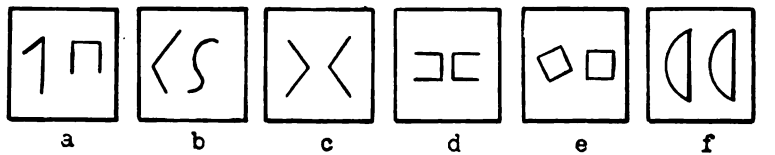
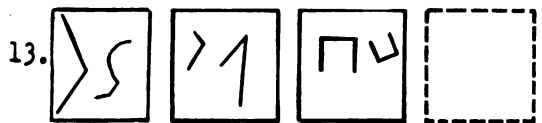
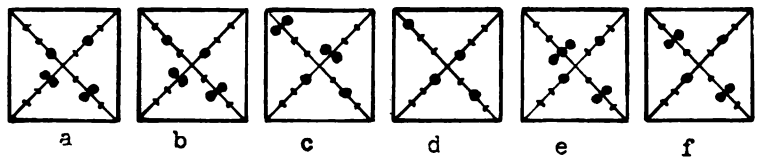
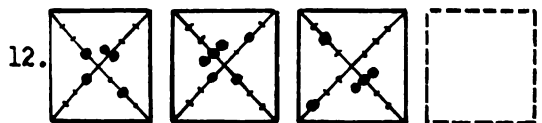
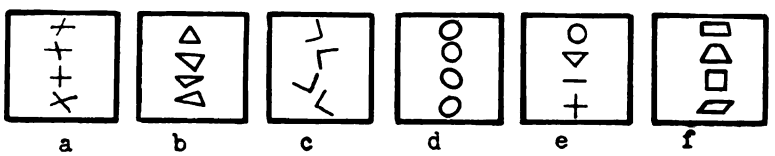
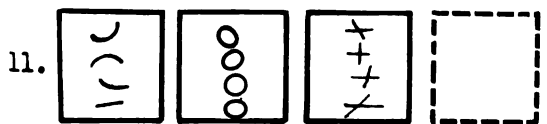
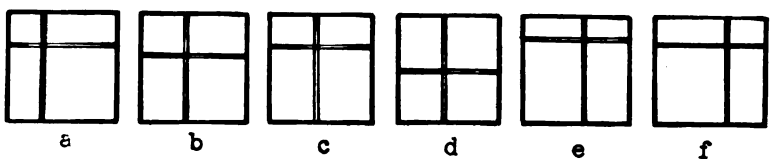
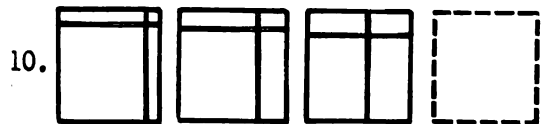
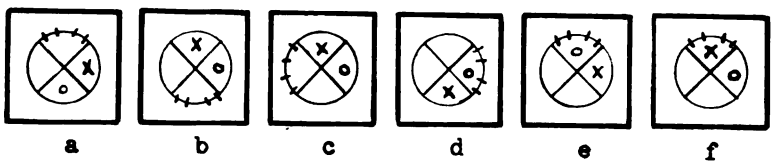
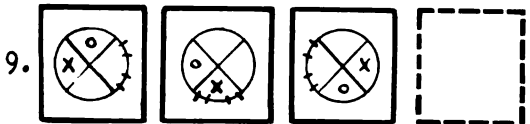
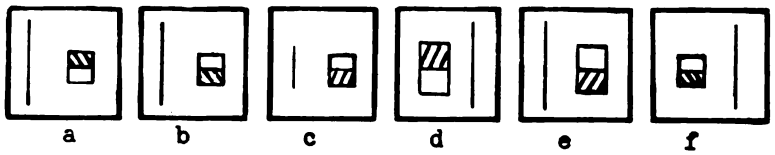
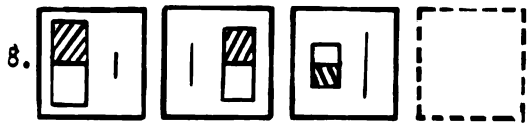
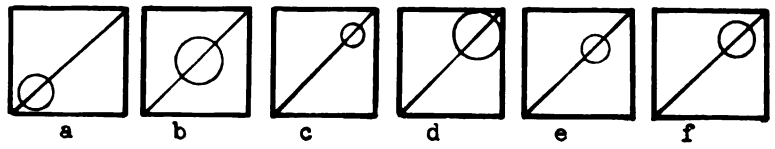
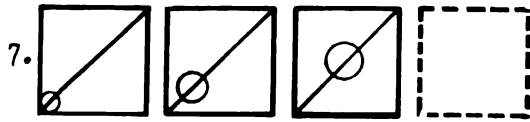
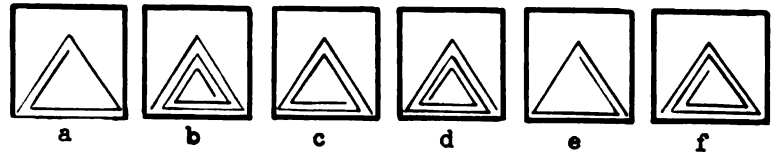
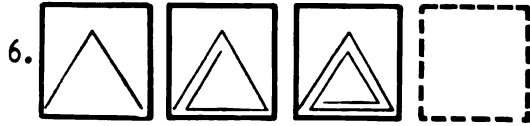
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c



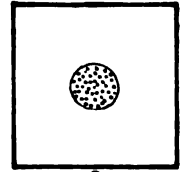
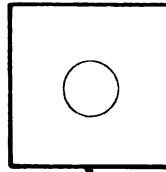
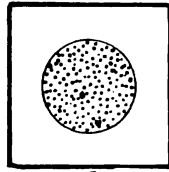
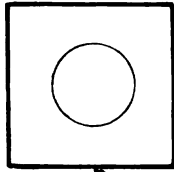
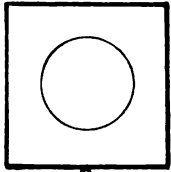
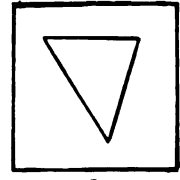
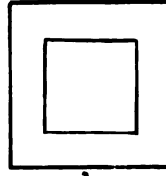
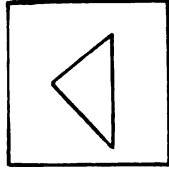
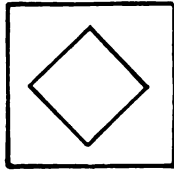
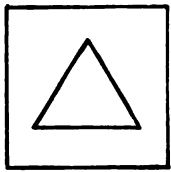
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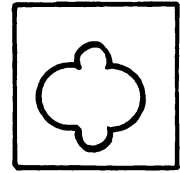
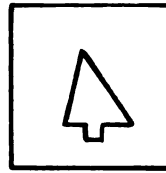
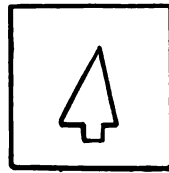
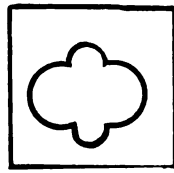
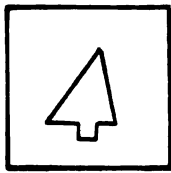
103  
**TEST 2**

**EXAMPLES**

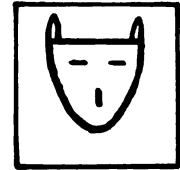
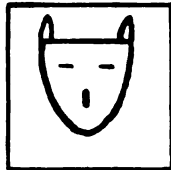
**4.  
ANSWERS**



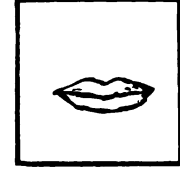
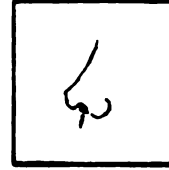
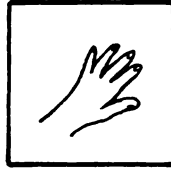
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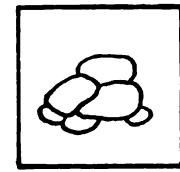
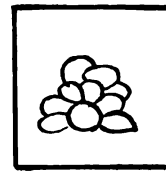
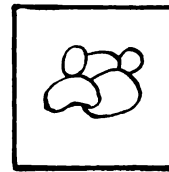
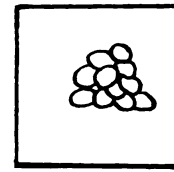
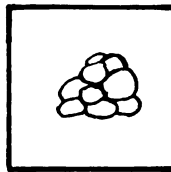
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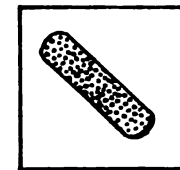
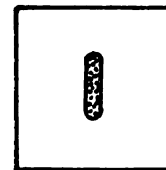
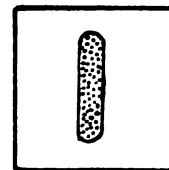
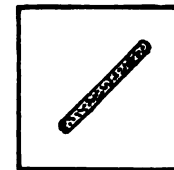
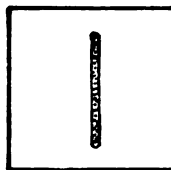
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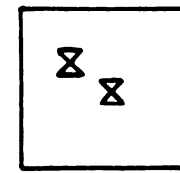
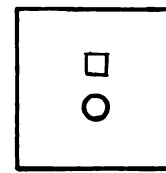
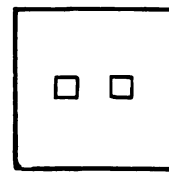
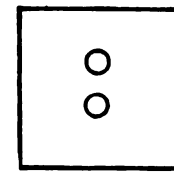
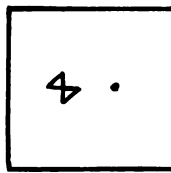
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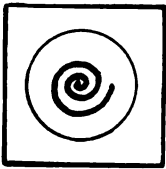
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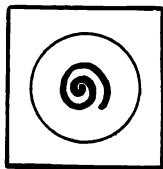
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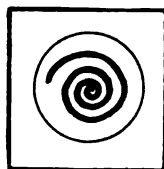
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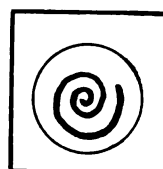
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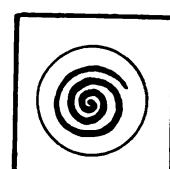
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c



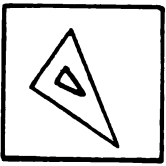
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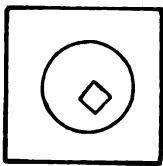
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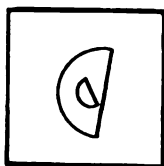
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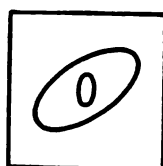
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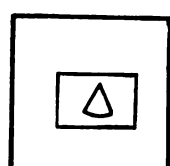
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c



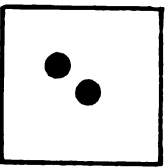
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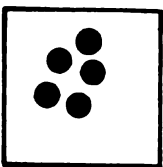
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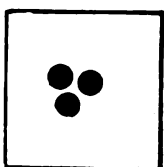
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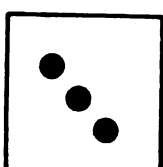
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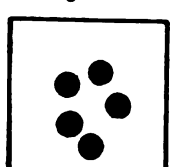
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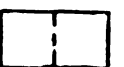
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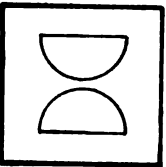
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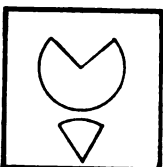
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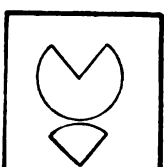
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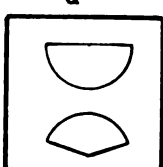
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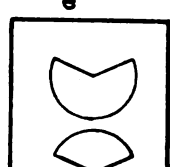
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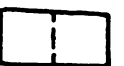
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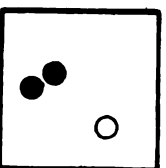
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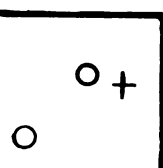
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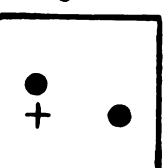
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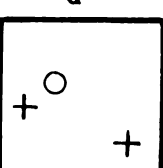
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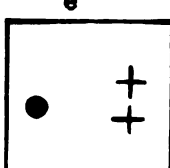
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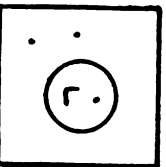
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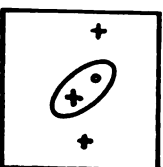
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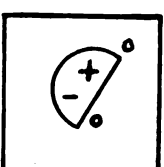
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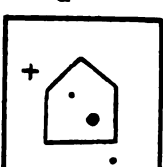
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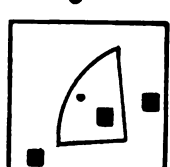
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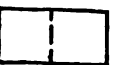
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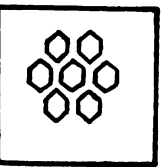
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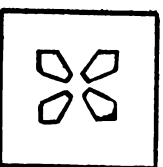
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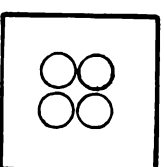
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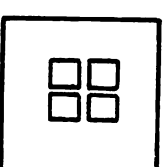
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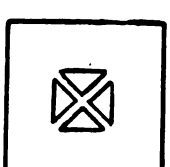
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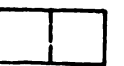
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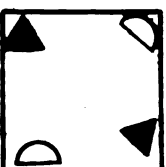
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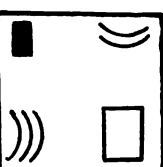
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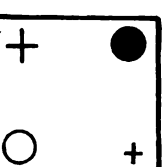
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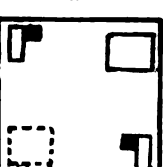
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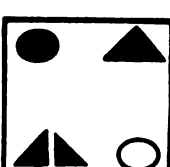
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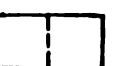
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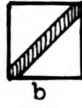
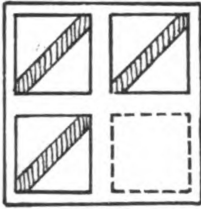
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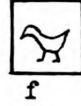
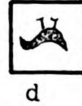
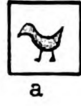
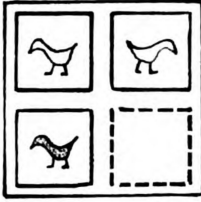


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**TEST 3**

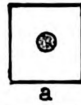
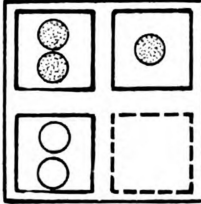
**EXAMPLES**



b

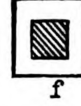
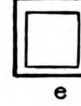
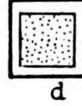
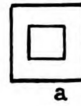
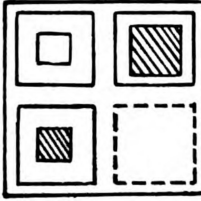


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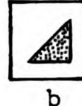
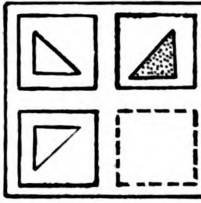


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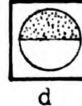
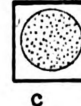
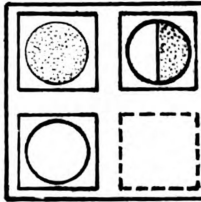
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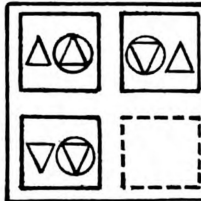
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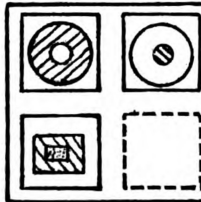
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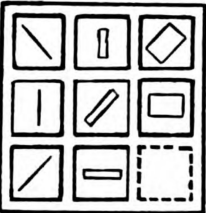
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6.  
**ANSWERS**







6. 


a  b  c  d  e  f 







7. 

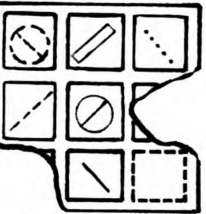
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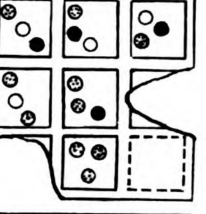
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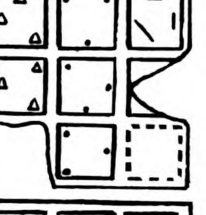
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



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





11. 

a  b  c  d  e  f 

12. 

a  b  c  d  e  f 

13. 

a  b  c  d  e  f 

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107  
**TEST 4**

8.

**EXAMPLES**

**ANSWERS**

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1.						<input type="text"/>
2.						<input type="text"/>
3.						<input type="text"/>
4.						<input type="text"/>
5.						<input type="text"/>
6.						<input type="text"/>
7.						<input type="text"/>
8.						<input type="text"/>
9.						<input type="text"/>
10.						<input type="text"/>

## APPENDIX VI

A MODIFIED SHORT FORM OF  
SEWELL'S SOCIO-ECONOMIC STATUS SCALE

1. OUR HOME IS: ( ) owned ( ) rented.
2. THE NUMBER OF PERSONS WHO LIVE AT OUR HOUSE IS: \_\_\_\_\_.
3. THE NUMBER OF ROOMS IN OUR HOUSE IS: \_\_\_\_\_.  
(Do not include basements, bathrooms, porches, closets, halls.)
4. THE CONSTRUCTION OF OUR HOUSE IS:
  - ( ) brick.
  - ( ) unpainted frame.
  - ( ) painted frame.
  - ( ) other (specify) \_\_\_\_\_.
5. THE LIGHTING IN OUR HOUSE IS:
  - ( ) oil lamps.
  - ( ) electric.
  - ( ) gas, mantle, or pressure lamps.
  - ( ) other or none.
6. THE KIND OF REFRIGERATOR WE HAVE IS:
  - ( ) ice.
  - ( ) mechanical (gas or electric).
  - ( ) other or none.
7. WE HAVE A DEEP FREEZE LOCKER AT OUR HOME: ( ) yes ( ) no.
8. WE HAVE RUNNING WATER IN OUR HOUSE: ( ) yes ( ) no.
9. WE TAKE A DAILY NEWSPAPER: ( ) yes ( ) no.
10. WE HAVE A POWER WASHING MACHINE: ( ) yes ( ) no.
11. WE HAVE A RADIO: ( ) yes ( ) no.
12. WE HAVE A CAR (other than truck): ( ) yes ( ) no.
13. WE HAVE A TELEPHONE: ( ) yes ( ) no.
14. MY FATHER GOES TO CHURCH AT LEAST ONCE A MONTH: ( ) yes ( ) no.
15. MY MOTHER GOES TO CHURCH AT LEAST ONCE A MONTH: ( ) yes ( ) no.

## APPENDIX VII

MEANS AND STANDARD DEVIATIONS OF THE FOUR SOCIO-ECONOMIC  
STATUS INDICES USED IN THIS STUDY

	Means	SD
North-Hatt occupational prestige	63.19	10.70
Father's Education	5.89	1.94
Mother's Education	6.33	1.64
Sewell's <u>Socio-Economic</u> <u>Status Scale</u>	87.22	6.13

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Protein	Control (%)	2,4-D (%)
Actin	~95	~95
Glyceraldehyde-3-phosphate dehydrogenase	~95	~95
Glucose-6-phosphate dehydrogenase	~95	~95
Glutamate dehydrogenase	~95	~95
Glutathione S-transferase	~95	~95

Figure 1. The effect of the number of trials on the number of correct responses. The number of correct responses was plotted against the number of trials for each condition. The number of correct responses increased with the number of trials for all conditions. The number of correct responses was highest for the condition with the highest number of trials (10 trials) and lowest for the condition with the lowest number of trials (2 trials).

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2. The second part of the document addresses the challenges of data management in a rapidly changing environment. It highlights the need for flexible and scalable solutions that can adapt to new technologies and evolving business requirements. The author argues that investing in modern data infrastructure is crucial for staying competitive and making informed decisions.

3. The third part of the document focuses on the role of leadership in driving organizational success. It stresses that effective leaders must be able to inspire and motivate their teams, while also providing clear direction and support. The text offers practical advice on how to build a strong leadership team and foster a culture of innovation and collaboration.

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