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THE ATTITUDES AND INTERESTS OF TEACHERS AND PROSPECTIVE TEACHERS

BY

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A DISSERTATION SUBMITTED TO THE GRADUATE FACULTY OF THE COLLEGE OF EDUCATION, UNIVERSITY OF CINCINNATI, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE DOCTOR OF PHILOSOPHY IN EDUCATION

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CHAPTER I. THE PROBLEM AND ITS SETTING

A. THE PROBLEM

School-teachers are probably among the most discussed people on earth. There is no particular harm in this. The kind of person who teaches Johnny matters a great deal to Johnny's father and mother. It matters still more to the community. If education is the community's major social task, as is the faith of many educational thinkers, the community cannot look too closely to the choice of its guides in this undertaking.

A recent paper entitled "The Teacher's Brass Halo," by David H. Pierce, a layman, reveals the significance of the personality of the teacher by showing what a supposedly typical schoolmistress is like (62 *). The sketch attempts to condense

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* The numbers in parentheses refer to the numbered references in the bibliography.

---

into one Mary Brown the alleged foibles and virtues of the great army of school-teachers. Naturally enough, the paper has inspired numerous replies, some amused, some in resentment, from teachers and others. If the typical American teacher is such a person as Mr. Pierce portrays, the patrons of American schools ought to be acquainted with the facts. Indeed, they

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ought to know the manner of teacher they employ, regardless of whether Mr. Pierce is right or not.

Few studies have ever been made of the personal characteristics of teachers as an occupational group. The factors which are commonly considered in salary schedules and in the selection of teachers have been investigated to some degree - age, sex, training, length of service, and the like. Rating scales for judging less obvious factors in teacher equipment are numerous, but have yielded little or no information on the characteristics of teachers as compared with other groups. The importance of good personality in a teacher is readily granted, but there has been little analysis of this factor in other than theoretical terms. Something is known regarding the intelligence of teachers; little, as to other mental traits.

One reason why the characteristics of mind and behavior which distinguish teachers have been so little studied is the lack of suitable tools for such research. Personality measurement is as yet only in its infancy. No psychologist has thus far succeeded in rendering such service in this field as Alfred Binet did in the early days of intelligence testing.

The present study presents the results of an

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attempt to compare, through measurement, the attitudes and interests of certain groups of teachers and prospective teachers. The subjects of the measurements are typical first, of college sophomores as yet vocationally untrained and in the main unselected; second, of the persons just entering teaching from one of the most exacting and selective programs of teacher-training now in operation; third, of a body of teachers rather highly selected for training and experience; fourth, of music students preparing to utilize their musical education in the field of public school music.

The choice of attitudes and interests as the particular personality characteristics to be studied in this investigation needs little justification. It has been determined partly by the available instruments of measurement, but more by the enormous significance which attitudes possess. The attitudes of teachers cannot help but affect the attitudes of pupils. They are of prime importance because of their effect upon the intangible products of education.

As a preliminary to an account of the measurement of attitudes, it will be well to review briefly their nature and meaning.

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B. THEORETICAL SETTING

1. THEORETICAL LITERATURE

Most writers on education and psychology are in substantial agreement on the tremendous importance of attitudes and interests as outcomes of education. In a few cases, they are regarded as major goals for teaching. Attitudes are more commonly, however, referred to as by-products of instruction in the usual school work.

Burnham. Burnham, in his striking book, "The Normal Mind," writes; "The great aim of education and of mental hygiene is development of healthful attitudes and their integration in character" (8, p. 287). In a significant passage he stresses the effective elements in attitudes (8, pp. 284-285).

> "Importance of the Attitudes.- Our mental life is largely made up of a kaleidoscopic variety of attitudes. We are accustomed to think of sensations and ideas when we speak of the mental life; but deeper than the life of sensation and of intellect is the life of feeling, and what we call for lack of a better word these attitudes. They are frequently referred to as the adjustment of the mind, or the set of the mind, or the like. In recent years attention has centered on the importance of these sets and attitudes. The investigations of the Würzburg school, and of Baird and others in this country have resulted in an important literature on this subject. It is seen that they are specially important for the functioning of such mental processes as memory, association, and the like, and thus are vitally significant

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in determining thought and action.

> "Thus the mental world, to use the ordinary figure, is divided into two great hemispheres: on the one hand, sensations, images, ideas, whatever is present before the mind, what the Germans call the Vorstellung; and, on the other hand, that of organic and affective tendencies, attitudes, interests, what is inherent in the mind, what the Germans call the Einstellung.
>
> "The term attitude is not synonymous with the word habit; but every habit, it may be said, has its correlative attitude. Again the word attitude is not synonymous with interest, but a much broader term. Although every interest has its associated attitude, on the other hand, many attitudes are not expressed concretely in what are ordinarily called interests, but are largely unconscious. Habits of preperception enter largely into our interests, whereas the attitudes seem to be made up more especially of organic, affective, and kinaesthetic elements."

Burnham mentions certain attitudes which persist over a long time (8, pp. 287-288), -

> "the more generic attitudes that may determine one's behavior for a long period or a lifetime . . . . Among them are one's attitude toward one's self, conceited or depreciatory; toward others, helpful or selfish; toward one's work, interested or bored; toward life and the world, aggressive or shrinking; toward the present, attentive or indifferent; toward the past, absorbed in it or forgetful; toward the future, optimistic or pessimistic; toward society, seeking it or shunning it; toward authority, yielding or antagonistic; toward nature, following it or fighting it; toward convention, obeying it or ignoring it."

These attitudes are determined, according to Burnham, by experience and training as well as by heredity.

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Stressing attitudes related to one's work, he gives the following discussion of the development of attitudes (8, pp. 286-287):

> "Every individual has, of course, his own peculiar attitudes as determined by his experience and training as well as his original disposition. These are very deep-seated and fundamental things; and they, in turn, determine one's general behavior and even, to a large extent, one's ideals and aims. Thus these attitudes are formed by our reactions. They are modified by our reactions. Healthful attitudes on the one hand, abnormal and injurious attitudes on the other, are developed by our behavior in different situations.
>
> "The best way to develop a permanent attitude or a permanent interest is to do something. By attending to things, by doing things, interests and attitudes are inevitably developed; and among the strongest and most wholesome interests are those in our own work and our various tasks. And thus an occupation represents a vital complex of associations and attitudes. It comes to be one of the most important things in an individual's character. It is almost a part of one's personality. Or, more accurately, it has been a great factor in integrating one's personality. Thus these attitudes are not merely a means, but an end."

Freyd. Freyd is concerned with interests as a significant factor in vocational guidance and vocational differentiation. He states (24, p. 243):

> "In behavioristic terms, interest in an object may be defined simply as the tendency to make positive reactions toward that object. Introspection would add the affective element or 'likes.' We are not concerned in this connection with interests that are mere reflexes, such as the interest in a bright light in the periphery of vision. Rather, we are concerned with those which are developed in a social environment and are the result of heredity

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or social habit."

Elsewhere, speaking of certain specific questionnaires, Freyd states that the use of the term "interests" to denote the element revealed may be questioned, but adds, "it is immaterial whether they be called interests, complexes, preferences, or likes and dislikes; what matters is that the psychological phenomena be given the recognition they merit" (26, p. 320).

Allport. Allport refers to the fact that attitude is originally a term used to denote motor set (2, p. 244). Although retaining this definition for attitude, Allport describes various attitudes of "submissive suggestibility," jealousy, persistence, etc., which imply a broad interpretation of the term.

Warren. Warren devotes considerable space, in his "Elements of Human Psychology," to an analysis of attitudes. His definition reads as follows: "A mental attitude is a permanent set of our mental and nervous system which modifies the effect of stimuli and determines how we shall respond" (81, p. 332). Warren makes the term attitude cover interest, desire, and attention, as primary attitudes, and dispositions, appreciation, conscience, proclivities, language attitudes, and ideal attitudes, as secondary attitudes. The term thus becomes very broad in scope. Warren's

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discussion of the development of attitudes resembles that given by Burnham. A brief passage by Warren may illustrate (81, p. 333):

> "Every attitude is the product of repeated experiences. If you live in a certain environment you are likely to develop certain attitudes which belong to that environment. The street urchin acquires a whole raft of attitudes from his surroundings which the farmer's lad could never develop. City life develops alertness; country life promotes observation of nature. Our attitudes are sieves through which certain experiences are strained out and others are concentrated. Attitudes begin to develop early in life. Fear of the dark or of thunder can usually be traced to some experience in childhood. It may take years to eradicate certain impressions made by the tales of an ignorant nurse. You were told of the man who was tossed so high that he stayed in the air, floating about forever; the notion sticks by you long after you are familiar with the principle of gravitation."

Hart. Hart sets up a particular attitude or set of attitudes, under the general trait name of socialization, as a desirable goal for education. He uses the term socialization to refer to the tendency of the individual "to feel and act as though the welfare of the individuals and social groups with which he comes into contact were his own welfare." His discussion follows (32, p. 5):

> "The concept thus defined must be distinguished from mob-mindedness, from enlightened selfishness, and from unselfishness. Mob-mindedness consists in an irrational merging of the

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> individuality with the group, attended with greatly heightened suggestibility. The socialized person fully retains his individuality and is likely to be especially resistant to irrational suggestion. Enlightened selfishness is supposed to consist in promoting the welfare of others because cold calculation shows that this is the best way to promote one's own welfare. The socialized individual acts for the welfare of the group, not as a result of selfish calculations but because he has assimilated the interests of the group to such an extent that its welfare is inherently interesting to him. Welfare of the group is for him an end, not a means. The process consists essentially in an expansion of the self. It is not, therefore, unselfishness or self-abnegation, though minor personal interests tend to lose force in comparison with larger group interests. The purpose of measuring socialization as thus defined is to become able to study the conditions under which socialization arises and develops to its highest intensity, with a view to learning how this characteristic may be made as widespread as is desirable."

Groves. Socialized individuality is regarded as the goal of education by Groves, a sociologist. This is essentially a statement of educational aims in terms of attitudes. Groves writes in his recent book, "Personality and Social Adjustment" (31, pp. 268-269):

> "Education begins with the individual and ends with him. It uses the resources of a personality born into the world with an equipment unlike that of any other and seeks not to destroy this individuality but to fulfil it. Education can not succeed when it standardizes its product and attempts to mould individuality into one form.

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It finds variation and it must develop variation.

"Individuality has in the past been developed without any sense of social responsibility to such an extent as to make many feel that individuality in itself is unwholesome . . . . Individuality, thoroughly socialized, remains nevertheless the proper goal of democratic education. Democracy thrives upon variation in self-expression. It seeks an equality of opportunity which will enable each individual to attain his largest possible development. Its emphasis upon personal achievement must be tempered, however, by an insistence upon the necessity of obedience to social authority."

2. POSITION ADOPTED

The most fundamental aspect of attitudes is the feeling aspect. Practically all attitudes about which educators are likely to be concerned have an affective tone. The writer agrees with Burnham in stressing the affective nature of attitudes, and with Freyd in minimizing the importance of the particular terms which may be used to denote the phenomena in question. Just so soon as one seeks to measure other qualities of human nature than those of intelligence, he faces the problems of emotion and feeling. Here must the primary attack be made upon individual differences in personality.

The term attitude is used very simply, throughout this discussion, to refer to any positive or negative tendency with reference to an object, a person, an

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activity, an idea, etc. By positive and negative tendencies are meant those responses which the structuralist calls pleasantness and unpleasantness, which Thorndike discusses in terms of satisfaction and annoyance, which a behaviorist might label approach and withdrawal, acceptance and rejection, repetition and elimination, etc.

The term interest is freely used to mean a positive attitude, in any one of the above senses. There is no serviceable general term to denote a negative attitude. "Less interested" is a phase often used when one individual adopts a more negative attitude than another. "Negative interest" might perhaps be employed, in contrast to "positive interest." Such usage would make "interest" and "attitude" roughly synonymous. Although throughout the present report the term "an interest" regularly means a positive attitude, both words have been left in the title, in deference to the loose usage which prevails. *

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* Freyd prefers the term "interest." Hart uses both terms, but stresses "attitude."

Technique and theory are closely related in the present discussion. Although a brief analysis of current attempts to measure personality traits and

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especially attitudes follows, and formal discussion of research technique is deferred to Chapter II, a word suggesting the methodology of the research here reported is perhaps now in order.

In the present research attitudes are measured by a direct approach to the feeling aspect. The subject is asked to indicate whether he likes, dislikes, or has no affective reaction to each of a large number of verbal stimuli - names of objects, actions, types of people, beliefs, etc. Fundamentally, the data thus consist of reported affective reactions to various verbal stimuli. These data are refined in ways to indicate relative affective valuation of various stimuli, and are supplemented by numerous other data. The affective reactions, however, retain major importance. The basic feeling aspect of attitudes is thus directly touched.

C. EXPERIMENTAL SETTING

1. GENERAL

Although the measurement of personality has not been developed to the extent of the measurement of intelligence, or with nearly such important consequences in educational procedure, the field can no longer be called untilled. May and Hartshorne have found it

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possible to assemble a bibliography of 196 titles, on "Personality and Character Tests" (55), to cover solely the period from 1920 to 1925 inclusive. G. B. Watson has collected 165 additional titles in the same field, for 1926 (85). Numerous other surveys of the experimental literature on the measurement of non-intellectual traits have been published, notably those by F. H. Allport (3), G. W. Allport (4), Hollingworth (38), Manson (49 and 50), May (52), May and Hartshorne (54 and 55), Symonds (74), Watson (83, 84, and 85), and Wells (86).

In consideration of this extensive bibliographical and critical literature, it should suffice to review the significant attempts to measure attitudes and interests, especially where the subjects are comparable with those of the present investigation.

2. TYPICAL MEASUREMENTS ATTEMPTED

Considering the loose meaning attached to the terms attitude and interest, one is tempted to say that all personality and character tests attempt to measure attitudes or interests. Even when the terms are given restricted significance, there is a wide range in the topics covered.

Recent studies have purported to measure fair-mindedness (Watson, 82), international-mindedness

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(Manry, 48; Prederic, 20), money-mindedness (Shuttleworth, 70), open-mindedness (Symonds, 73), public spiritedness (Coe, 11), liberal or progressive attitudes in politics (Allport and Hartman, 1), attitudes on prohibition and on race relations (Commission on Christian Education, 13), social distance * (Bogardus, 7), sociality (Ream, 68),

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* Attitudes toward various social groups.

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socialization (Hart, 32), vocational interests (Freyd, 24, 25, 26, and 27; Miner, 56; Moore, 57 and 58; Ream, 67), religious and social attitudes (Case, 10; Hartshorne, 33 and 34), beliefs and confidence (Lund, 47; Trow, 80), character preferences, reading preferences, and activity preferences (Raubenheimer, 66), leisure time interests (Trow, 79).

Many of these studies attempt a general survey of a large number of different attitudes, either toward various stimuli within a given field or toward stimuli within several different fields. Among the writers whose researches have included such more or less general surveys of attitudes and interests are Coe (11), Hartshorne (34), Hart (32), Lund (47), Raubenheimer (66), Travis (78), Watson (82), Freyd (25), Miner (56), Moore (57), and Ream (67).

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3. TYPICAL TECHNIQUES EMPLOYED

These workers have used much ingenuity in devising methods for the measurement of attitudes and interests.

Among the techniques widely employed may be mentioned first that of the questionnaire listing many words or phrases, to which the subject must respond by indicating a positive or negative reaction. In some questionnaires the response is in terms of "like" or "dislike", in others in terms of checking plus or minus signs, the words "yes" or "no", etc. In most cases the experimenters have allowed the subject to indicate in some way a neutral or uncertain reaction. Sometimes the degree of the reaction is indicated. Methods of this type have been employed by Hart (32), Freyd (24, 25, and 26), Shuttleworth (70), Travis (78), Moore (57 and 58), and Ream (67).

Another method which has attained some prominence is that of the association test. Coe (11), Burtt (9), Wyman (88), and Freyd (25), have used this in some form or other. Freyd reports a fairly exhaustive study of an adaptation of the Kent-Rosanoff Free Association Test to rapid group testing (25). Wyman has made the most extended application of the association test technique, in measuring the interests of the normal

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and superior children reported in Terman's "Genetic Studies in Genius," Volume I (75). She found that it was possible to develop a scoring method for a short free association test in such a way as to differentiate and measure three types of interest, which she called intellectual, social, and activity.

Numerous other techniques of measurement appear. True and false tests have been used by Case (10), Hartshorne (53 and 54), and Frederic (20). Multiple choice tests have been used by the Commission on Christian Education, Federal Council of Churches (13), and Raubenheimer (66). Special information tests to reveal interest in certain fields have been devised by Henry (48), Frederic (20), Burtt (9), and Pressey (64 and 65). The questionnaire method has been employed by Symonds (73), Allport and Hartman (1), Freyd (25), and Trow (79). Ranking of preferences appears in Raubenheimer's work (66). Lund (47) and Trow (80) have asked their subjects to indicate certain beliefs and the degree of belief. Recognition of pictures appears in the work of Lentz (45). Crossing out irrelevant words in a passage which might arouse certain types of interest has been used by Burtt (9).

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4. RESEARCHES OF SPECIAL SIGNIFICANCE FOR THIS PROBLEM

In the study of the attitudes and interests of teachers and prospective teachers, it was found essential to limit the methodology to certain types. Many of the researches which have been mentioned above proved most suggestive, and some of these furnished materials for the conduct of the present research. Among the most important of these investigations are those by Freyd (25), Hart (52), and Frow (79). These may be briefly reviewed in turn.

a. Freyd

Freyd's most important work has been a general psychological analysis of the differences in personality between men whose primary interest is social and men whose primary interest is in mechanics. This is reported in a monograph entitled "The Personalities of the Socially and the Mechanically Inclined" (25). Freyd selected certain groups for study, primarily groups of successful life insurance salesman and of engineering students. The groups were small, the major groups consisting of thirty subjects each. These subjects were put through a series of questionnaires and tests, and a scoring

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method was devised for giving a total score which would differentiate, in the main, the members of one group from the members of another. Intercorrelations of measures were obtained, in an attempt to find constellations of traits which would differentiate socially inclined men from mechanically inclined men. Freyd was able to summarize the differences in such a way as to arrive at a fairly consistent picture of the extremes of divergence between his groups. He states his findings, in part, as follows (25, pp. v-vi):

> "The results of the group comparisons lead to the conclusion that those who are interested in dealing with human beings (the salesmen) are differentiated from the students of mechanics by greater social ability, credulity or suggestibility, adaptability, excitability, self-confidence, talkativeness, present-mindedness, and good nature. The students of mechanics show a greater tendency to be self-conscious, careful of details, inhibited and cautious, reticent, absent-minded, and glum. They are more capable of making fine coordinations, and excel in slow, painstaking, and accurate effort. There is no evidence for two correspondingly sharply defined types of personality, but evidence points to the utility of recognizing 'extremes,' those few at the social extreme possessing all the traits of the completely socially adapted person, and those at the mechanical extreme possessing all of the traits of the person who is completely devoted to machines or inanimate objects. Most individuals will deviate from an absolutely neutral state toward one or the other extreme, depending upon which of the two opposed classes of traits is dominant in the make-up of their

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> personality. A use of this distinction is provided in the present study by the presentation of a composite scoring method which discriminates effectively between the socially adapted and the mechanically adapted.
>
> "At a later date the writer expects to show the relation of these results to the concepts of the introvert and the extrovert, which have been taken over by many psychologists. There is a remarkable correspondence between the traits described in the theoretical literature as native to the introvert and the extrovert and those which differentiate the mechanically inclined from the socially inclined, the mechanically inclined corresponding to the introvert and the socially inclined to the extrovert. The greater objectivity of a distinction based on ability to motivate people and ability to handle machines warrants the use of this criterion for distinguishing the extrovert from the introvert, rather than the criterion of facing reality or withdrawing from it."

Freyd's battery included several measures of which use has been made, in more or less modified form, in the present research. He used a questionnaire on early personal history, which yielded a number of significant differences. His questionnaires on Occupational Interests and Likes and Dislikes suggested interesting possibilities. He devised a special method of giving and scoring the Kent-Rosanoff Free Association Test for rapid group testing. Finally, Freyd used a graphic rating scale to provide a check upon his other measures. All of this work furnished assistance in the preparation of the test battery for the present research. The most important test material which was used by Freyd and which was not adapted to the needs of this

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research was a group form of the Downey Will-Temperament Test.

Freyd's statistical treatment of his differences was directed toward showing that the actual differences he found would obtain with larger groups selected in the same fashion. For many of his differences, however, he does not present the detailed evidence of reliability.

b. Hart

Hart published in 1923 a monograph entitled "Progress Report and Test of Social Attitudes and Interests," as one of the University of Iowa Studies in Child Welfare (32). Although no final report has as yet been published, the monograph referred to contains significant data on the test referred to. Hart's test consists of lists of verbal stimuli, each of which is followed by a plus sign and a minus sign. The subjects are instructed to encircle the plus sign for the items liked, and the minus sign for the items disliked. A neutral reaction may be indicated by omission of any reaction. Relative strength of the reactions to the items in a list is indicated by underlining the items about which the subject feels most strongly. The lists vary in length from fifteen to eighteen items. The subjects are instructed to

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underline once the five items in each list about which they feel most strongly, and to underline twice the one item in each list about which they feel most strongly. This procedure gives a measure of relative affective values as well as of the general direction of affective reaction.

Hart's subjects were thirty-three alleged leaders of social progress and one hundred fifty-four relatively unselected men. The leaders of social progress were selected by nomination of persons whom Hart considered to be competent judges. These included personal acquaintances, members of the American Sociological Society, and of the National Conference on Social Work, and contributors to the support of the Survey Magazine. The nominations were made on a blank with the following heading:

"NOMINATIONS
of persons to be included in

A List of American Leaders in Social Progress

"The undersigned submits the following names of persons believed to be of the types indicated:

1. Employers who are actively and successfully interested in the well-being of their employees.
2. Persons recognized by both capital and labor as being fair to both sides in industrial controversies.
3. Men and women who have done signal service in the interest of cleaner politics, or in the promotion of social justice.

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4. Teachers, preachers and publicists who have inspired social vision.
5. Individuals known to be sacrificing personal and financial interests for the sake of their fellows.
6. Eminently successful fathers and mothers.
7. Other types."

Two hundred nominees were invited to fill out the test form. Of these thirty-three responded. The names of thirty-two of these are given in Hart's report. A sampling of these names is as follows (every fifth name has been taken):

David C. Adie, Secretary of the Buffalo, N.Y. Charity Organization Society.

Reverend W. D. P. Bliss, Editor of the Encyclopedia of Social Reform.

H. P. Carruth, General Manager of the Mead Pulp and Paper Company of Chillicothe, Ohio.

Edward T. Devine, author and lecturer on social work.

David Starr Jordan, Chancellor Emeritus of Stanford University.

Bleecker Marquette, Executive Secretary of the Public Health Federation of Cincinnati, Ohio.

Arthur J. Sweet, Electrical Engineer in Milwaukee, Wisconsin.

The one hundred and fifty-four other men who filled out the test form are classified as follows by Hart:

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Thieves	10
Employed boys	12
Grade and high-school business men	36
College business men	10
Successful business men	9
Junior 'medics'	54
Other college men	23
Total	154

"The 'thieves' included a small group of fairly intelligent men accused or convicted of larceny who were tested in the Polk County, Iowa, jail, and a few employed men known to be or suspected of being dishonest or highly undesirable employees.

"'Employed boys' include male employees under 18 years of age, chiefly in certain department stores.

"'Successful business men' include male employees whose employers designated them as especially valuable. Certain men in the next two groups doubtless might properly be included here.

"'College business men' include employed men, chiefly in two department stores, who had attended college, and who are not included in preceeding groups.

"'Grade and high-school business men' included other employed males not included in any of the above groups.

"'Junior medics' include the members of the junior class in the medical school of the University of Iowa.

"'Other college men' include men who have attended college and who are not included in other groups. Most of them were graduate students at the university. Some of them probably might properly be classed as leaders of social progress."

Any one of seven reactions may be made to a given item by a subject. He may mark the item "like", "like strongly," "like most strongly;" "dislike," "dislike strongly," "dislike most strongly;" or he may leave it unmarked, to show a neutral reaction.

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If these reactions are arranged in order from "like most strongly" to "dislike most strongly," they form a seven-point scale. Any one group of subjects will tend to give a more or less normal distribution of reactions along this scale. Group differences appear in the locations along this scale of the distributions for the groups.

Hart's method of analysis of his data lumped together the reactions to items which he considered a logical group and which yielded differences of the same general nature. This method disguises differences for particular items, but shows general trends clearly.

Hart found that his "leaders of social progress" differed from his control group in ways which he summarizes as follows (32, pp. 37-38):

> "The differences in reactions are such as to indicate that the men in the highly socialized group either are, or believe themselves to be, or think it desirable to appear, markedly more interested in international, economic, criminal, and social justice, far more interested in discovering truth and having it spread abroad freely, more interested in intellectual and ethical aspects of religion, but less interested in creeds and forms, far less interested in conventionality and social approval, decidedly less sentimental and dominated by sympathy and immediate personal bonds, and much more indifferent to light reading, to certain aspects of personal comfort, to business success, and in general to trivial and selfish interests than the other men tested are, to believe themselves to be, or think it desirable to appear."

In the present study Hart's test has been used,

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with a modification in the method of recording the reactions, but without other change. The differences found by Hart have been used as a basis for comparison with the differences found in this investigation.

One important addition to Hart's technique has been made. A method for securing a total score for socialization, based upon the difference reported by Hart, has been derived. This method will be reported in Chapter II.

c. Trow

Trow has reported returns from a questionnaire on leisure time activities, under the title, "More Dangers of the Doctorate" (79). His questionnaire was directly originally toward the question of what graduate students at Columbia University do with their leisure time.

Trow's findings were measured against an arbitrary standard which he set up. He judged the graduate students he questioned to reveal an apalling narrowness of interests. It may be noted that norms for an unselected group from the population at large or for other groups comparable in age and previous education, but not engaged in graduate study, were not available.

Trow's technique is simple and direct. His questions are aimed at the number of participations in

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specifically indicated activities, indulged in during a specified period of time preceding the filling in of the questionnaire. The information called for is in the possession of the subject. Trow believes that most individuals may be expected to find satisfaction in considering the answers - "to do so means the recollection of happy hours fresh in the memory."

The findings may be reported in terms of complete distributions for number of participations for each activity, or the returns from various questions may be combined if the investigator desires. Trow used a total score as a general index of breadth of participation in activities of the types listed.

The present research has utilized Trow's questionnaire as modified by him for further research. The findings are reported in somewhat different terms than those used by Trow, but credit for the inception and development of the instrument belongs solely to him. A discussion of the questionnaire will be found in Chapter II.

D. RESEARCHES AND OPINIONS ON TEACHER PERSONALITY

Personality finds prominent mention in most rating scales for teachers. Occasionally personality traits are listed in large numbers, with some attempt at

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analysis, but usually the product is merely a series of abstract terms. One recent attempt to devise a rating scale for fundamental personality traits of teachers is reported by Freyd, presenting a graphic rating scale (21,22). He does not report results obtained with this scale, however.

Many of the studies of the causes of failure of teachers include mention of personality, sometimes analyzed into sub-traits. Lewis gives a good discussion of these studies, but is compelled to state (46, pp. 309-310):

> "On the whole, however, the general concept of personality, although so frequently employed in making judgments regarding teachers, is extremely vague and intangible and little can be done in correcting the deficiencies which our study reveals in respect to personality until it is split up into more specific factors."

Elaborate studies have, of course, been made of the factors which are generally considered in determining teachers' salaries, appointment, etc. On the other hand, relatively personal and private characteristics of teachers, such as their use of leisure time, their recreations, their opinions, etc., have received almost no attention from research workers.

A recent study by Davis (17), on participation of teachers in community affairs, is summarized by Lewis as follows (46, p. 238):

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> "The social and civic demands.- To what extent ought teachers to participate in social, civic, religious, charitable, and other community activities outside of school? Davis found that 31 per cent of high-school teachers spent less than 60 minutes per week in social and civic affairs, while 31 per cent reported that they spent no time at all in such matters. What is the reason that high-school teachers do not concern themselves to any great extent with such matters? Grade-school teachers do little more. Is it due to lack of interest or a lack of time and strength? Let each teacher answer for herself."

Davis also gives a detailed analysis of how a typical high-school teacher spends her week.

Basing his statements mainly upon the work of Curtis (16), Lewis gives the following summary of the evidence regarding teachers' recreations (46, p. 40):

> "How teachers recreate.- The few studies that have been made of how teachers spend their leisure time indicate that teachers are inclined to take 'just what comes along.' There is little evidence of systematic or planned recreations of an individual or of a co-operative character. Passive recreations such as reading, lectures, concerts, music, movies, theaters, and entertainments are the most popular. Next come other passive activities such as sewing, crocheting, tatting, china painting, and the like. The more active avocations such as riding, walking, driving, motoring, sleighing, camping, fishing, swimming, skating, canoeing, bowling, gardening, and housework are patronized occasionally but not systematically. Less than 10 per cent of the teachers take part in any kind of sport outside of walking. 'The three principal forms of recreation for teachers are reading, moving pictures, and walking.'"

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In contrast to the literature of research, the literature of opinion is ample. Several examples of opinions expressed by those who have written about teachers may be mentioned. Many of the opinions cited are to some extent checked up by the present research.

Lewis summarizes the arguments regarding the employment of married as compared with unmarried women teachers, in terms which include several references to personality traits, attitudes and interests, etc. A selection from the arguments which he presents is as follows (46, p. 185-187):

SUMMARY OF ARGUMENTS FOR AND AGAINST THE EMPLOYMENT OF MARRIED TEACHERS

Arguments for the Employment of Married Teachers	Arguments against the Employment of Married Teachers
1. The profession is benefited by retaining the stronger and more attractive women.	1. The state benefits more by having the stronger and more attractive women produce and rear the next generation.
2. Many married women teach for the love of the work.	2. Married women have their thoughts and interests in the home and teach only for money.
4. Married women are more intelligently interested in children.	4. The unmarried woman has few other interests besides her professional duties and therefore devotes her entire time to them.
13. Married women are better disciplined through experience and receive criticisms in better spirit.	13. Married women are not dependent on their work for a livelihood and are more independent of educational authority.

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23. Young teachers are not as settled and do not keep as good hours. They are more interested in social pleasures than in children.	23. It is for the best interests of the pupil to have young teachers who are not married.
30. Medical research has proved that birth control enables the woman to have children at a time when she is best prepared to do so to best advantage to herself and her child. The pupil is too young to be influenced to such a view of life.	30. They practice birth control to a pernicious extent and unconsciously influence the pupils to such views of life.

Almack and Lang stress the social qualities needed and presumably found in teachers (5, p. 303):

> "Teaching is a social vocation. Success is dependent upon the ability to meet people and work with people. The art of doing this well can best be acquired and maintained by practice. It is so easy for one to stay in. The habits of being over-social and of being too retiring alike grow with the years; hence the importance of establishing the right kind of balance between work and social interests."

On the other hand, Lewis specifically states that teachers are too often introverted (46, p. 323):

> "Social factors.- The teacher who is able to succeed socially is usually more successful in the classroom, and vice versa. Too many teachers are introverts. They are too self-conscious. They lack social experience and the social graces that make it easy and natural to mix well with other folks. Many teachers seem to possess an inferiority complex. They do not feel that they are as good as their associates. They instinctively shun social opportunities."

Almack and Lang agree with Lewis and most other

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writers that teaching is a social service occupation. Almack and Lang state (5, p. 16):

> "Teaching is pre-eminently a social service profession. The principal reason for teaching is not for the material compensation, but for the opportunity to share in the advancement of human welfare."

Finally, special mention may be made of the violent criticism voiced by Pierce in the article on "The Teacher's Brass Halo," already referred to (62). This article pictures the typical teacher as ordinary, bourgeois, middle class, and "small town" in her views and outlook. Pierce says that the typical teacher is alert, attractive, well-dressed; she bobs her hair, uses rouge and lipstick, and drives her own Ford. Although she is pictured as trained in evangelical protestantism, and as thoroughly conservative in her religious views, she is supposed to have personal acquaintance with alcohol and tobacco, to dance, play bridge, and gamble. Socially, she is well able to hold her own in any gathering. Off-color stories do not bother her, and she is willing to spend the wee small hours with her male escort in a parked car on a shady country road. Pierce pictures his typical teacher as unintellectual. She likes inspirational speeches, but is too narrow to care for addresses on social problems. She is supposed to be ignorant and

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uninterested regarding strikes, international politics, and the causes of wars. A thorough conservative, she adheres to a narrow patriotism, regarding her country as superior to any, and believing that the United States has never fought an unjust war. She appears to have no professional spirit or ambition, although she loves the children she teaches.

It may be stated that the attitudes and interests of teachers have been almost totally unexplored. Opinions are common and facts few in this field.

E. FINAL STATEMENT OF PROBLEM

The present research is concerned with a limited phase of the study of teacher personality. The particular aspect of teacher personality selected is that of attitudes and interests.

This study is likewise limited in the subjects measured. Instead of comparing a random sampling of all teachers with a random sampling of the population, the study has been restricted to white, unmarried, women teachers, in comparison with certain groups from which they are recruited. These groups are student-teachers, who may be regarded as fledglings in the profession, college sophomore girls, some of whom will teach and many of whom will not, and a specialized group of music students who are preparing to teach

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music in the public schools.

The available data permit final statement of the several major problems of this investigation as follows:

1. What are the major differences in attitudes and interests between groups of college sophomores, student-teachers, and teachers-in-service, as these groups are represented in the classes of the College of Education of the University of Cincinnati?

2. To what degree are these differences explainable in terms of age, training, and intelligence?

3. What are the major differences in attitudes and interests between sophomores and public school music students, and between student-teachers and public school music students?

In so far as the data permit, the answers given to these questions will be carefully interpreted. On the other hand, this research must be regarded as a survey of attitudes and interests, rather than as an attempt to develop a method of selecting or training teachers. Implications for selection and training may appear, but the research itself is directed toward adequate measurement of a sampling of the attitudes and interests characteristic of certain groups of teachers and pre-teachers, in comparison with each other.

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CHAPTER II. PROCEDURE

A. GENERAL

Reactions to a long test battery were secured from four major groups of subjects. Differences between these major groups were then determined. These differences were then compared with the differences determined for sub-groups made up by dividing the members of certain of the major groups on the basis of age, training, and intelligence. All differences basic to the discussion have been studied as to statistical reliability, so far as simple sampling is concerned.

The four basic groups considered were sophomores, student-teachers, teachers, and music students. These are known respectively throughout the research as groups A, B, C, and F. The sub-groups consisted of younger teachers, older teachers, teachers without degrees, teachers with degrees, duller teachers, brighter teachers, duller sophomores, and brighter sophomores. These groups are known respectively as groups D, E, P, Q, R, S, T, and U. *

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* The latter designations for the groups were in certain cases determined before the final procedure had become fixed. It proved convenient to retain the original letters.

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For convenient reference, the latter designations and group names are listed as follows:

A - sophomores

B - student-teachers

C - teachers

D - younger teachers (sub-group of C)

E - older teachers (sub-group of C)

F - music students

P - teachers without degrees (sub-group of C)

Q - teachers with degrees (sub-group of C)

R - duller teachers (sub-group of C)

S - brighter teachers (sub-group of C)

T - duller sophomores (sub-group of A)

U - brighter sophomores (sub-group of A)

(See Table 1)

The body of this report consists of nine chapters presenting nine parallel group comparisons. First appear the basic comparisons between groups A and C, sophomores and teachers; A and B, sophomores and student-teachers; B and C, student-teachers and teachers. These are followed by comparisons between the various sub-groups: D and E, younger and older teachers; P and Q, teachers without and with degrees; R and S, duller and brighter teachers; and T and U, duller and brighter sophomores. All of these comparisons between sub-groups are included primarily

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to explain differences and similarities which may be found between groups A, B, and C.

Two further comparisons finally appear, between groups A and F, sophomores and music students; and B and F, student-teachers and music students. The sophomores, student-teachers, and teachers, form a sequence, since all of the student-teachers have belonged to such a group as that of the sophomores, and many of the teachers have formerly been student-teachers. On the other hand, the music students stand somewhat apart. It is for this reason that the comparisons involving music students have been put last.

Finally, an attempt has been made to show interrelations of the group differences noted. All of the available evidence from the various tests and questionnaires has been utilized in an attempt to show the differences between the major groups investigated, and the significance of these differences.

B. MEASUREMENT PROGRAM

1. SUBJECTS OF THE INVESTIGATION

The subjects of this investigation were 243 white, unmarried women. They were all examined in classes at the University of Cincinnati, and are

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distributed as follows: 87 sophomores in the College of Liberal Arts; 32 student-teachers in the College of Education; 81 teachers-in-service from Cincinnati and adjacent towns; 43 public school music students from the Cincinnati Conservatory of Music and the Cincinnati College of Music. These groups are known respectively as groups A, B, C, and F.

Sophomores. The college sophomores who served as subjects were all students in a course in Educational Psychology, which is required as a prerequisite to admission into the College of Education. The course counts, however, toward the Bachelor of Arts degree and not all students who elect the course continue toward teaching. Most sophomores in the College of Liberal Arts elect a year's work in Psychology. They have the privilege of choosing between Educational Psychology and General Psychology, the choice being affected by the requirements of Educational Psychology for those who are to enter the College of Education, preferences as to instructor, hours of meeting, etc. It will be seen that Group A consists of college students, measured in the first course through which the College of Education makes contact with them. Out of this group must come the students who will pass through the regular program

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of instruction of the College of Education and thus into teaching. They are not selected vocationally as yet, to more than a very minor degree, nor are they in any way trained vocationally for teaching. These students are probably quite representative of the University of Cincinnati Liberal Arts sophomore women in general, since the election of Educational Psychology is governed only in part by vocational factors.

The question may be raised to what extent this college sophomore group is representative of sophomores at other colleges and universities. It may be noted that the University of Cincinnati is a municipal university enrolling about fourteen hundred students in the College of Liberal Arts. Many of the students live at home. The University is co-educational, and about seven hundred of the fourteen hundred students are women. Data gathered by Dr. B. B. Breese, of the Department of Psychology, show an average Army Alpha Score of 139.7 for 208 students in General Psychology, most of whom are sophomores, as measured over a period of several years. This average score is not far from that for sophomores at the University of Rochester (37), and is in general harmony with the results for the various colleges and universities which used Army Alpha in the years immediately following the war (90).

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Student-teachers. The group of student-teachers is highly selected, and relatively small. The student-teachers measured have had four full years of college work, have graduated with an A. B. or B. S. degree, and have further survived the major part of a year of intensive student-teaching. In this so-called fifth year program the student-teachers study half time at the University, teaching half of each day in one of the Cincinnati schools, under the supervision of the college authorities and co-operating teachers in the schools. They are selected partly on the basis of personality and adaptability for teaching, and partly on the basis of grades in college work. In general, a grade average of B or better, on a marking scale which counts A, B, C, and D as passing grades and an average of C as sufficient to graduate, is a prerequisite for student-teaching. The members of this group are on salary (seven hundred dollars for half time teaching, 1926-1927) and have responsibilities in accordance with their position in the school system, of quite different character from the responsibilities carried by the ordinary sophomore. In general, the student-teachers rate more than a year above the average age of seniors at the University of Cincinnati, and approximately 3.5 years above the sophomores measured in this investigation.

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An investigation of the student-teaching group of 1924-1925, carried out by Professor W. H. Burton, revealed that the student-teachers come from families of smaller size and with larger incomes than the teachers studied by Coffman in his well-known research, "The Social Composition of the Teaching Population," carried out in 1911 (12). Further data on the personal histories of the student-teacher group will be presented as a part of the findings of this investigation.

Teachers-in-service. The members of Group C represent a highly selected teaching body. 92% of them teach in the schools of Cincinnati, and the remainder teach in the cities and towns suburban to Cincinnati. All of the teacher subjects were enrolled in some University class at the time they were measured. This fact probably indicates interest in professional advancement, on the part of most of the group. A certain number, however, may doubtless have enrolled in a University course because of deficient preparation, desire to secure favorable notice from the Superintendent's office, necessity of meeting state department requirements, etc.

The group of teachers measured is a city group. 92% come from the Cincinnati schools, and the suburban schools which furnish the remainder of the group are all located in cities of good size. Evidence is at

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hand to show that the group represents, on the average, a high degree of training. Approximately 50% of the group already hold college degrees, while practically all of the remainder have had at least two years of normal school or college training (Tables 2 and 3). Even the latter amount of training is above the general average for teachers for the United States as a whole (country and city teachers considered together). In 1911 Coffman (12) described the average woman teacher as a high school graduate. Almack and Lang (5, p. 20) state;

> "Today we find that the average city elementary school teacher has finished a two-year normal school course. The average high school teacher in the city is a college graduate. In the rural and village schools, the amount of formal training averages about a year less in each department."

In age, the members of Group C average approximately 34. Coffman (12), not distinguishing between rural and city, or elementary and high school teachers, found in 1911 that the typical American woman teacher was 24 years of age. Lewis states (46),

> "A great majority of teachers are between the ages of 20 and 30. Davis found 60% of high school teachers between these ages and Judd in St. Louis found an equal percentage of elementary school women."

An unpublished survey by the writer of the literature

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on the high school teaching population indicates that the typical rural high school teacher is about 25 or 26 years old and that the typical city high school teacher is about 30 years old. It seems safe to state that the teachers included in group C average in age well above typical city teachers, as well as typical rural teachers, for the United States as a whole.

Table 4 indicates the distribution of the teachers in group C by teaching position and location in Cincinnati or outside. It will be noted that the teachers in group C include representatives of all the elementary grades, of high school, and teachers of most of the special departments. Elementary school teachers are predominant, however.

In summary, the group of teachers is highly selected, representing an urban teaching population with a high average level of preparation and a high average age level. No claim can be made that the group is representative of the teachers of the United States. In fact, so far as age, training and experience go, it would probably represent more nearly the most highly selected public school teacher groups of America than it would the average.

Public school music students. The members of group F are all students in public school music in the

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Cincinnati Conservatory of Music or the College of Music of Cincinnati. Most of these students were enrolled in a three-year course and were at the time of testing in the second year of this course. They are about a year and a half older than the college sophomores, on the average, and about two years younger than the student-teachers. On the other hand, they are comparable to the student-teachers in their selection for professional training and in their outlook upon professional life. Most of the members of the group were engaged in student-teaching, though on a limited scale only, in the Cincinnati public schools, at the time of the testing.

This group represents a source for teachers in one of the special fields of public school work, that of music. Probably most of the members of this group are less interested in teaching for its own sake than as a practical outlet for a musical education. The music students may properly be considered in comparison both with the sophomores and the student-teachers, as a definite pre-teaching group in a special field.

2. SELECTION AND ARRANGEMENT OF TEST BATTERY

Most of the subjects derived for the investigation could be reached in two-hour classes. It was accordingly decided to prepare a test battery which would normally

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require not over a single two-hour class period for application. This meant literally one hour and forty minutes, since the regular class hour at the University of Cincinnati is fifty minutes in duration.

Much of the material desired for the test battery did not have time limits. It was necessary to adjust the material so that all but the very slowest workers might finish within the allotted time, without need for haste. Experience showed that the battery as developed met this requirement well. The few very slow individuals usually required a few minutes over the regular class time. They were allowed to work as long as they desired.

Preliminary to the organization of the measures into a test booklet, a considerable number of selected measures were typewritten and tried out on a small group of adults. Comments were obtained, and the item required for each measure was carefully noted.

The battery as finally developed is reproduced in Appendix A, together with the instructions which were given orally to the groups measured. The wording of the oral instructions was closely adhered to with all groups. Occasionally a subject asked for an interpretation of an item or question in the untimed part of the battery. No explanation was ever given, since it was desired for all subjects to stand on an

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equal footing with reference to ambiguous items, if such appeared.

The first page of the test booklet yielded the necessary information for classification of the subjects (see Appendix A). The paragraph at the top of the page was designed to secure good co-operation by indicating the nature of the investigation. In general, this purpose was well achieved, as evidenced by the fact that almost no one raised the slightest question about giving his name, when the space for this was reached. Once or twice the question was asked, and the reply was given that the name was desired only to insure absolute accuracy of classification and to make possible looking up University records, referring a subject's paper back to him for explanation of an ambiguous response, etc.

The question regarding age failed to receive answers from 12% (10 cases out of 81) of the women teachers measured. In comparisons and correlations involving age, those subjects are, of course, excluded from consideration.

It was considered wise to start the test battery with such timed tests as were to be included, both as a matter of convenience in giving, and in order to secure a desirable test attitude toward the material.

The battery accordingly began with the four tests

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selected from Army Alpha. The same precision was observed in handling the instructions for this test as would be the case with a group of soldiers or school children.

The Army Alpha Tests were followed by a four-minute form of the Kent-Rosanoff Free Association Test, adapted to group testing.

Transition was then made to the untimed part of the battery, and the subjects were instructed to turn the pages, while noting carefully the oral instructions. All oral instructions were thus given before the subjects began work upon the series of tests, questionnaires, and ratings which made up the bulk of the battery.

First was placed a selection of items from an interest question blank originally used by the Bureau of Personnel Research, Carnegie Institute of Technology. This material was used by the permission of Dr. C. S. Yoakum. The page given to this material contained sixty-two items. The method of indicating the affective response was to encircle L for the items liked, N for the items toward which the subject was neutral, and D for the items disliked. This method of indicating response was a variation of that of the original interest analysis blank.

The next page consisted of a list of thirty occupations for men and thirty occupations for women,

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to which an affective response was to be made, and recorded exactly as for the items on the preceding page. The occupations listed were selected from the lists prepared by Freyd and published by G. H. Stoelting and Company.

The next section of the battery was given over to the Hornell Hart Test of Social Attitudes and Interests, Form D. This test was reproduced complete, the one change made being in the method of recording the reactions. The symbols L, N, and D were used exactly as for the preceding questionnaires, instead of the plus and minus signs which Hart used. Hart instructed his subjects to underline and double underline the items about which they felt strongly and most strongly in each list, whereas the instructions in the present battery were to place crosses before the items about which the subject felt strongly and most strongly. These changes were made in order to bring the Hart test into line with the other interest questionnaires used, so as to avoid confusing the subjects with a multiplicity of directions, and in order to make scoring somewhat easier.

List 9 of the Hornell Hart Test consists of statements, which the subjects are asked to treat as they would the statements in a True-False Test. For the plus and minus signs used in the original Hart Test, the letters T and F, for true and false,

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were here substituted.

The next page of the battery consisted of a questionnaire on leisure time activities, prepared by W. Clark Trow. This was included without alteration, exactly as used by Dr. Trow with his various groups of subjects.

Next appeared a page of personal history questions. These were derived from the questions reported in Freyd's work on the socially and mechanically inclined. he wording of the questions is not strictly uniform with Freyd's wording. Freyd's original questionnaire was not available at the time the test battery was prepared.

Finally, the test battery included a combination of Freyd's graphic rating scale for teachers with graphic rating scales for several additional traits selected from the scales presented in Freyd's study of the socially and the mechanically inclined. *

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* The writer is indebted to his colleague, W. A. Justice, for the preparation of the stencils for mimeographing the rating scales.

Permission was obtained from Dr. Freyd and C. H. Stoelting and Company, publishers of the graphic rating scale for teachers, for the use of this material. The subjects were asked to use the scale as a self-rating device, and to furnish references to whom groups of the scale might be sent for check ratings. None of

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this material was eventually used, since it proved impracticable to secure the supplementary ratings and work up the results, under the conditions of this research.

3. CONDITIONS OF TESTING

All of the subjects tested were students in regular classes of the College of Education of the University of Cincinnati. No selection was made of subjects within the classes tested, with the result that many more tests were given than were used in the final group comparisons. Over 450 subjects were actually tested. These included large numbers of men, married women, colored students and teachers, etc., who were excluded from the groups finally selected for study. *

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* All tests given were completely scored, with the results transferred to individual record sheets. The writer plans to work up results in the near future for several groups of subjects not reported, in the present study, e.g., colored women teachers, industrial arts men teachers, etc.

The students in about fifteen different classes of the College of Education were given the tests and questionnaires during March, 1926. All of these classes were two hours in length, with the exception of the classes in which sophomores were tested. These were sections of the class, Psychology 11, which meets

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three days a week for one hour each period. The students in this course were given the battery in two divisions. On the first day, the first page was filled in, the Army Alpha and the Association Tests were given, and the questionnaires were answered on leisure time activities and personal history. On the second day the Likes-Dislikes Questionnaire, Occupational Interests Questionnaire, the Hornell Hart Test, and the Rating Scale were used.

All of the testing was done under the direction of the writer, except in one class of fifteen students. For this class, the test was under the direction of the writer's colleague, Assistant Professor W. A. Justice, who has had wide experience in educational and mental measurements.

The co-operation of the subjects was of a high order throughout. No difficulty was experienced in getting students to regard the exercise in a serious light. On the other hand, many subjects proved curious to know the significance of the work done, when the results would be available, etc.

The possibility of a subject's giving reactions which he might consider as desirable rather than as representative of himself must be considered in any test program of this sort. Two observations are pertinent here. In the first place, no desired trend

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was suggested or evident, for any of the tests and questionnaires used. In the second place, if certain subjects tended to give responses for a certain item, having a certain trend away from the actual facts, it is probable that the trend would be in the same direction for all subjects. Group differences should not be affected, and the present study is merely one of group differences. The absolute reactions are only of incidental significance, for the purposes of this investigation.

If there are certain shortcomings in the data because of failure of subjects to co-operate, these are inherent in the nature of the measuring instruments used. It is recognized that interest questionnaires, etc., depend upon the free co-operation of the subjects responding. Every effort was made in this investigation to secure such freedom of response, by instructions given to the subjects regarding the impersonal nature of the research, its scientific purpose, and the confidential terms in which the results would be held, as well as by the attitude assumed by the examiner of confidence in the subjects.

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4. ANALYTICAL DISCUSSION OF MEASURES USED

a. Personal History Questions

Age. The age was obtained from the questions on the first page of the test booklet. Among the sophomores and the music students there was practically no reluctance to give age. A considerable number of the teachers failed to give their age, but in most cases this was obtained from the registrar's records. Where no record could be obtained of age, either directly or indirectly, the subject was excluded from comparisons involving or depending upon age.

It may be that an occasional subject misrepresented her age. Decided group differences do maintain, however, between the younger and the older teachers, and it is unlikely that these would be materially affected by an occasional misrepresentation of age. Stress was laid upon the impersonal nature of the study, both in the first paragraph of the test booklet and in the oral comments made at the beginning of each test session.

Number of children in family. The personal history questionnaire included the following question: - "How many children, including yourself, were there in your family? 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - .....? This gave the basis for this measure.

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An occasional student marked the question zero, an obvious impossibility. As a check upon the subject's comprehension of the fact that she was to be included among the children, in every case comparison was made with the answer to the next question which read: "Were you the oldest child, the youngest, or in between? Oldest - youngest - in between - only child."

Special questionnaire on personal history. Although the Likes-Dislikes list, the Occupations list, and the Hornell Hart Test may be considered as modified questionnaires, they are not in typical G. Stanley Hall questionnaire form. The personal history questions are phrased somewhat more in the time-honored fashion. Yet these questions call for definite statements in objective terms on matters concerning which the subject has information, or, where the answer is a matter of opinion, where the subject's opinion is exactly the issue involved. Under the conditions which obtained for the measuring program, there was no intimation of a desired trend to the results. There is no obvious best answer to each of the questions asked. For most of the questions the absolute answers may probably be trusted. Group differences are unlikely to be affected in any case, by the existence of constant errors, since these would presumably be in the same direction for all groups.

The present questionnaire is a re-wording of

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certain of the questions which proved significant in Freyd's study of the socially and mechanically inclined. No attempt has been made to phrase the questions identically with Freyd's statement of them. The effort has been primarily to make the questions unambiguous and clear.

The questions used may be grouped under various headings. Questions 1 and 2 are concerned with the education of the parents of the subject. Questions 4 and 5 deal with the number of children in the family and the ordinal position of the subject in the group of children. Questions 3, 6, 7, and 9 deal with the matter of relative influence of the two parents upon the subject, through heredity and training, dominance in the family, etc. Question 10 proposes the kind of treatment which the subject received from the parents, without reference to differences between the parents. Questions 12 and 13 deal with the social and religious environment in the home, getting indirectly at the breadth or narrowness of family acquaintance, and the kind of social life in the home. Question 11 raises the vital question of the economic status of the home. Questions 14 and 15 deal with running away from home, a matter which may be suggestive indirectly of the general type of home environment and the degree of satisfaction with home conditions. Question 8 and the

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three parts of question 16 raise directly the issue of the subject's satisfaction with early environment.

The tables for the Personal History Questionnaire (Tables 38 to 52) give the answers to the various questions in percentage terms. The number of subjects in each group answering each question is given, this varying for the several questions. One or two, and occasionally more, of a group ordinarily failed to reply to certain questions. For the sake of comparability, the percentages are in terms of the number who actually replied to each question. It may be that the numbers failing to reply are significant of resistance or some other general attitude, but no attempt has been made to use these data.

b. Intelligence Test

(1) Search for a suitable intelligence test.

Although the present study is primarily concerned with non-intellectual traits, it was felt necessary to include a brief test of general intellectual level as a check upon other measures. Differences found between groups in regard to attitudes and interests may conceivably be due to differences in intelligence. To furnish evidence by which to check up this hypothesis, an intelligence test was an essential part of the battery.

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Since the battery was planned to be of limited scope, and the measurement of non-intellectual characteristics was the major interest of the study, the intelligence test had to be brief. It was also desirable for it to give data comparable to available data from groups of teachers, students, etc., who had already been studied.

A search of the literature revealed the existence of but one intelligence test for adults with a total time requirement, for directions and work, under thirty minutes. This is Bureau of Personnel Research Test VI, a spiral-omnibus test with items chosen from the Army Alpha Examination, and with a total working time of fifteen minutes. This test has not been given to such large unselected and selected groups, however, as would permit the desired comparisons.

If the Army Alpha Examination, which in its complete form requires about forty minutes for instructions and working time, could be abbreviated, and yet yield a score correlating highly with total score and readily transmutable into approximate total score, the desired result would be achieved. This was found entirely feasible.

(2) Preparation of an abbreviated form of Army Alpha.

The Army Alpha Examination consists of eight

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tests. It was desired to select not less than three or more than five of these, including such tests as correlated most closely with total score and yet would require but little time to give. The high correlation should also be shown to obtain for a highly selected group, such as was anticipated for the testing program.

Considerable data were found available in "Psychological Examining in the United States Army," Volume XV of the Memoirs of the National Academy of Science (89). The Alpha Examination was the product of a revision of a preliminary battery, known as Examination a, which included tests equivalent to each of the eight finally grouped in Alpha, plus two other tests which were ultimately discarded. From various sections of the Memoirs, data were gathered by which to rank the eight tests of Alpha or the equivalent tests of Examination a, as to their value in predicting total score. These various rankings are assembled in Table 8. To these data may be added the statement on page 338 of the Memoirs that battery a as a whole is best represented by tests corresponding to Alpha tests 4, 7, 8, and 2.

On the basis of these data, especially the data for the high-grade groups, tests 4, 8, and 7 were selected as a minimum for the proposed battery. Tests 2, 3, and 5 were also considered as candidates for the

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battery. Since test 2 required more time than 3 and 5 combined, the combination of tests 3 anf 5 with the three basic tests was also considered.

To try out these proposed combinations, partial and total scores on Alpha Form 6 were obtained for 55 subjects from classes of teachers and music students who might be considered similar to the subjects of the proposed investigation. The coefficients of correlation obtained from the various combinations are given in Table 9. This table also shows the length of working time for each combination. The working time for Alpha unabridged is 22 1/2 minutes. Directions add materially to this.

On the basis of Table 9, it was decided to use the combination, Tests 4, 5, 7, and 8 - synonym-antonym, disarranged sentences, analogies, and general information.

The next step was to devise a table for transmuting the scores upon this partial battery into approximate total scores on Alpha. This was done by means of the customary regression equation, based on the correlation between partial and total scores on Alpha. To guarantee greater accuracy herein than would obtain with 55 cases, the number was increased by the addition of cases from the files of the Department of Psychology, University of Cincinnati, until a total of 200 cases was reached. The

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correlation for 55 cases was 0.966; for 200 cases it was 0.962. The latter correlation was based upon records for all forms of Alpha, whereas the former was based upon Form 6 only.

The regression equation for the regression of total upon partial scores is as follows, the y-variable being total score and the x-variable being partial score on tests 4, 5, 7, and 8 (Gregory, 30, pp. 353-357):

$$y = r\frac{\sigma_y}{\sigma_x} = .962\ \frac{27.66}{21.73}\ x$$

$$= 1.2259\ x,$$

where y = mean y - y_1 = 134.75 - y_1,

and x = mean x - x_1 = 92.56 - x_1.

Solution of this equation for various values of x_1 gives Table 10, for predicting the most probable total score from a given partial score. This table has not been carried down to the lowest limit possible, $x_1 = 0$, since the straight-line relationship postulated in the given regression equation probably does not hold here. The partial scores obtained in this investigation, however, all fall well within the limits for which the regression equation appears valid.

All means, standard deviations, differences, and correlations, reported for Alpha in this study are based upon the total scores derived by the use of Table 10.

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Tests 4, 5, 7, and 8 as mimeographed in the test booklet were all reproductions of these tests in Form 6 of Alpha. Probably any other form would have been as satisfactory, but the original correlations which resulted in the choice of these tests had been made with data on Form 6. The regression equation was based upon data from various forms, but with Form 6 data predominant.

c. Association Test

(1) Introduction.

The Kent-Rosanoff Free Association Test has not been widely used in studies of vocationally selected groups. Freyd used it as a group test in his study of the socially and the mechanically minded, and found that his socially minded subjects (salesmen) showed a very significant superiority in average score for commonality of response over his mechanically minded subjects (industries students). The tests might then be used to indicate in a rough way, relative group tendencies to social-mindedness as contrasted with mechanical-mindedness. It was with a view to this goal that the test was included in the present battery.

Kent and Rosanoff developed the association test purely as an oral test. Freyd adapted it to group use

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by printing the 100 stimulus words in a list with blank spaces after them. He instructed his subjects to write after each word "the first word it suggests - the first word that comes to your mind;" and allowed just four minutes, stressing that the subjects were to work as quickly as they could.

Freyd describes the scoring method for commonality of response, and the interpretation of results, as follows (25, p. 33):

> "Coefficient of Commonality. The commonality score on a response is obtained by referring to the Kent-Rosanoff tables of response given by one thousand normal adults. In these tables each response word is preceded by a number which represents the number of individuals (out of the thousand) who gave that response to the particular stimulus word. For example, after the stimulus word "dark" we find appearing first the word "afraid", with the figure 6 before it, indicating that six of the one thousand subjects gave the word "afraid" in response to the word "dark." In scoring any person's test paper, we give him a score of 6 if he writes the word "afraid" after the stimulus word "dark." The score used in this study is the sum of the commonality scores of the first twenty-five responses given by the subject.
>
> "This score is a criterion of the extent to which a person's thoughts run in normal objective channels. Responses with low commonality value are unique responses which usually refer to the subject's individual experience. We cannot, however, go so far as to say that a person who scores low has psychopathic tendencies, since unusual responses may be characteristic of a very original person. The genius and the imbecile may find a common ground in their commonality score."

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The scoring method thus reported takes into account only 25 of the responses given by each subject. It is also exceedingly time-consuming. The Kent-Rosanoff frequency tables have long been out of print, and may now be found only in the original publication in the American Journal of Insanity (43). If a scoring method could be devised that would give a very high correlation with the score obtained from the Kent-Rosanoff tables by Freyd's method, and would be easier to use, it might be expected to give results interpretable in the same terms.

Such a scoring method has been devised, and has been used in this study.

(2) New scoring method.

The papers of 50 subjects, taken at random from among the first groups given these tests, were scored by the use of the Kent-Rosanoff frequency tables. Instead of taking merely the first 25 reactions, as Freyd did, the grader used all the reactions made by each subject, totalled the values of all these responses, and then divided by the number of reactions made ("attempts," in the customary terminology of tests). This probably gave a more reliable score than Freyd's method, although the significance of the score

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is not changed.

The papers were then rescored on the basis of a key prepared from the Kent-Rosanoff frequency tables, which indicated only the reactions given by 100 or more subjects out of the 1000 tested by Kent and Rosanoff. This key gives the value 1 to any reaction with a value 100 to 199 in the frequency tables, 2 to any reaction with an original value of 200 to 299, etc. One stimulus word, No. , " ," yielded no reaction word with a value as high as 100 in the frequency table. For this stimulus, the reaction of highest value ( ), in the frequency table was arbitrarily assigned a value of 1. The key thus worked out is reproduced in Table 11. Its simplicity, as compared with the cumbrous frequency tables, is obvious.

To obtain a final score, it is necessary to take into account both the sum of the response-values, and the number of attempted responses. Although the mere ratio of these would serve, it was felt that a more interpretable score was desirable. The score finally arrived at may be considered the percentage which the obtained response-value sum is of the maximum response-value sum possible for the number of attempted responses.

The steps in finding this score are as follows:

1. Give each response which is identical with one in Table 11 the value there indicated. Accept no

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responses which in any respect differ from those in this key.

2. Obtain the sum of these response-values.

3. Obtain the number of responses attempted.

4. Use Table 12 to obtain for the number of attempted responses its equivalent maximum response-value sum.

5. Divide the result of (2) by the result of (4). A slide-rule is convenient for this final step. The quotient, with the decimal point moved two places to the right, is the percentage score.

Table 12 was derived by adding cumulatively the maximum response-values for the 100 stimulus words in turn.

(3) Interpretation of the score.

The quotation from Freyd states that the commonality of association score is a "criterion of the extent to which a person's thoughts run in normal objective channels." Low scores represent relatively subjective responses of a unique character.

A less restricted interpretation of the significance of the commonality score is given by Allport as follows (2, p. 134):

> "The most symptomatic tests employed for introversion are in connection with the free word association method. Jung

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and others have distinguished two broad types of response words. First, there are those of an objective, non-emotional sort (for example, the response 'barn' given to the stimulus word 'house,' 'night' given as a response to 'day,' and the like), which are characteristic of the extroverted personality. Secondly, there are those of an ego-centric type common to introverts. Two sub-classes of the latter are the complex type and the predicate type. Examples of associations revealing emotional complexes are 'father' - 'anxious;' 'hair' - 'falling out;' 'love' - 'Donald.' The predicate type may be illustrated by such personal associations as 'water' - 'glorious;' 'ride' - 'dangerous.' Responses of the ego-centric type, together with increase in reaction time, hesitation, repetition of the stimulus word or of reaction words (perseveration), giving of superficial words, rhymes, etc., (especially with increase of reaction time), confusion, correction of reaction word, stilted and nonsensical reaction words, are all indicators of the repressions of the introvert. A list of one hundred words was given to one thousand normal persons and a count made of the frequency of occurrence of the various response words given. By reference to this frequency table it is possible to use this list on any subject and to ascertain the degree of 'community' of his responses (that is, how much the words he associates tend to be like or differ from those associated by the majority of people). (Kent and Rosanoff.) Individuals giving many predicate reactions (introverts) have a low index of community in the words they associate. (Wells.) Low community index has also been found to have a high correlation with the degree of introversion as determined by rating. (G. W. Allport.)"

Allport evidently considers that a low commonality score is a good indication of introversion, and a high score of extroversion. The writer believes, however,

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on the basis of an extended survey of the literature on the free association method, that caution is needed in interpreting differences in commonality score until further evidence has been obtained as to its significance. The score may be taken as one symptom among others of position on an introversion-extroversion scale, but may not be regarded as conclusive evidence.

d. Questionnaire on Leisure-Time Activities

(1) General.

Although several of the measures already reported give indications of differences in social attitudes and interests, interests in leisure-time activities, etc., a measure is included which provides direct data on the particular question of leisure-time activities. If one knows with some accuracy what the subjects in various groups do with their leisure time, one has a good check on differences in their reactions to such verbal stimuli as are contained in the interest questionnaires and the Hornell Hart Test.

To furnish such a check the test battery includes a questionnaire devised by Dr. W. C. Trow for the study of leisure-time activities. This questionnaire is modified from one which has been used at Columbia University to investigate the activities of graduate

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students apart from their studies. The report of this earlier study showed that graduate students tended to have but few outside interests, as judged in comparison with an arbitrary standard set up by Professor Trow (79).

The questionnaire asks specifically for the number of times one has attended operas, the theater, moving picture entertainments, etc., in a definite period, namely, that of the first semester of the year. In giving the directions for filling in the questionnaire, stress was laid upon the fact that this semester was 20 weeks long, and subjects were advised to estimate their activities where necessary in terms of this 20 week period. Unquestionably, the responses are not strictly accurate. As pointed out by Professor Trow in his earlier study, there is a tendency to answer in round numbers. Group differences should not be affected by this, nor should the average results, to any great extent.

The second part of the questionnaire asks whether or not the year has been more unusual than previous years, in the number of such activities indulged in. The questionnaire may be criticized on the ground that the further question as to the reason for the year being unusual, if it was unusual, is not asked. Of course, one might well rationalize in answering this question - a person who felt that he had done less

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apart from his work and study than he should have done, would be inclined to state that the year had been unusual, whereas he might, as a matter of fact, have done no more in outside activities if he had had plenty of time. This applies to a certain degree, to the situation of the teachers-in-service who are taking University courses. There is no desire in this study, however, to set up an arbitrary standard for such teachers. Rather, we are here interested in group differences.

The questions regarding the possession of hobbies proved ambiguous, different individuals giving the questions quite different interpretations. Differences found here have accordingly not been tabulated.

The final part of the questionnaire gave results which have not been tabulated for these groups. This raises the question of activities other than studies during college days. Since the groups differed in the amount of academic training they had had, and only the student-teachers had completed four years of college in one hundred per cent of the cases, group differences could not be ascertained.

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(2) Trow total activities score.

The Trow Questionnaire calls for a report of actual participation in each of a considerable number of activities during a period of 20 weeks. Stress was laid upon the fact that the period referred to was the first semester, and covered just 20 weeks. The Trow total activities score is the sum of all the numbers reported for the various activities, without weighting, except that activities 18, 19, and 20 are omitted. These items are magazines and newspapers read. They yielded ambiguous results. The questions were asked in order to find out the range of magazines and newspapers read, whereas many subjects reported a number which probably was the number of issues read.

This measure may be interpreted as an indication of the extent of participation in other than academic and work activities during the regular school year. It may be noted that any one participation in one activity commonly calls for a single period of activity, such as an evening at the theater, a trip to church, a session at cards, a period of exercise, etc. The one major exception to this statement is in the reading of books, which doubtless usually require more than a single session.

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(5) Trow partial scores.

An analysis of the Trow questionnaire was attempted, with a view to determining the differences in participation in activities of several different sorts. The following classification resulted.

Trow Partial 1. Uplift Activities. This topic includes situations where the activity may be assumed to be inspiring or, in the highest sense of the term, recreational. The following items were classified under this heading and the figures given for attendance at them were added to secure the score: - operas; symphony concerts; recitals; lectures, not classroom; church services; visits to museums; visits to art galleries.

Trow Partial 2. Social Activities. These are indoor activities, where one is not so much a spectator as a participant in social recreation. The following items are here included: - indoor games, cards, checkers, etc.; social meetings, club, lodge, etc.

Trow Partial 3. Light Entertainment. These are primarily audience situations, where the subject is only a spectator, and the activity is presumably not especially elevating, though not necessarily demoralizing. The following are the items included here: - comic opera, burlesque, revue, etc.; vaudeville; plays; moving pictures; athletic contests attended.

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Trow Partial 4. Physical Exercise. The activities here presented are each for a single period of physical exercise of some form or other. The following are the items under this heading: - outdoor (or gymnasium) games, or periods of exercise, basketball, golf, etc.; walks in the country.

Trow Partial 5. Non-professional Books Read. But one item is here included: - books, non-professional. Some subjects asked regarding this question whether books read for English courses might be included. The answer was that they should not be. The desire was to get at the number of books read primarily for pleasure.

e. Measures of Attitudes and Interests

(1) The questionnaires.

The two questionnaires on likes and dislikes and on occupational interests are adapted from materials used at Carnegie Institute of Technology, particularly by Max Freyd. They were used in Freyd's study, "The Personalities of the Socially and the Mechanically Inclined" (25). In the present study, it was impracticable to include all of the items which Freyd used, but nearly all of the items which he found differential have been included, together with a sampling of the others.

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Freyd found that the percentages of individuals in his groups marking the various symbols used gave a good indication of differences between the groups. Taking a certain minimum reliability of the difference in proportion as a criterion for selection of the significant differences, he found it possible to select a relatively small group of items for each of which one or more symbols could be assigned a score of either plus 1 or minus 1, according as the person reacted like the socially minded group or like the mechanically minded group. A total score, found from these partial scores, differentiated Freyd's groups with but very little overlapping. This procedure was applied by Freyd both to the likes-dislikes questionnaire, and to the occupational interests questionnaire.

Freyd used a set of symbols differing slightly from those employed in the present battery. The symbol (?), which Freyd used to suggest neutrality or indifference, has been changed to N. In his list of likes and dislikes, Freyd used the symbols L! and D! to denote a high degree of intensity of like or dislike. These latter symbols were discarded or neglected, however, in his final scoring. It is believed that these differences in symbols do not particularly affect the results, the use of the symbol N merely aiding the student to keep in mind the word "neutral"

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as representing a middle ground between like and dislike.

In this study, no attempt has been made to derive total scores for differentiating the groups. The present study is not directed toward a method for using tests in vocational guidance. It is concerned with the quantitative description of differences between the groups compared, rather than with a method of selecting candidates for membership in the various groups.

(a) Likes-dislikes questionnaire. This questionnaire includes 62 items. Items 1 to 6 refer to people conspicuous for age or physique. Items 7 to 22 refer to people marked out by mental characteristics, by attitudes or interests. Items 23 to 28 are out-door recreations or occupations, 29 to 31 indoor games, and 32 to 35 social recreations and events. Items 33 to 44 are types of reading matter. Items 45 to 50 are suggestive of types of entertainment. Items 51 to 54 are various conversational activities. Items 55 to 62 suggest miscellaneous activities and interests.

(b) Test of social attitudes. The Hart Test of Social Attitudes and Interests has already been described in Chapter I. The test as reprinted in the

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present battery is in complete form, the only change made being in the method of recording reactions. These changes have been noted in an earlier section.

The Hart Test was included partly because in form it was adaptable to the needs of this research, partly because it included so wide a range of stimuli, and partly because it had shown its usefulness in differentiating highly socialized individuals from unselected individuals. The latter fact gave evidence that a scoring method could be devised for measuring socialization, as such. Such a method was worked out, as described in a later section of this chapter.

Complete data on the reactions of the various groups measured to the items in the Likes-Dislikes Questionnaire and the Hart Test are given in Tables 53 to 262.

(c) Occupational interests. This questionnaire yields thirty occupations, some of them peculiarly feminine, others open to women on more or less of an equality with men. The nature of the directions is such as to bring out natural or acquired interests in the types of work listed. What one would like to do, given the requisite ability and opportunity, freedom from financial worry and freedom from parental interference, may be highly suggestive. No limitation is set by the directions upon the number of occupations

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in which a person may indicate an interest.

A tentative classification of the occupations listed here has been prepared, with the assistance of twenty-four white women teachers, none of whom served as a subject for this research. Table 13 shows the distribution of their reactions to a request to classify the thirty occupations under various headings set by the writer. This table gives the total reactions which fall under each heading, for each occupation, and also the number of question marks which were inserted by the teachers. The instructions were to pass a judgment one way or the other on each occupation, but in case of doubt to indicate this by a question mark.

Complete data on the reactions of the various groups measured to the thirty occupations are given in Tables 265 to 292.

(2) Classification of items.

The items in the Hornell Hart test and the Likes-Dislikes Questionnaire were classified arbitrarily. It will be noted that certain topics are given especial prominence by the inclusion of a dozen or more items, while other topics, perhaps equally significant, have but one or two items assigned to them. This is due to the nature of the material used, and not to the

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predilections of the writer. Freyd's questionnaire was available and it was desired to use such items from this as appeared likely to give interesting results, while the Hornell Hart test was adopted in toto on the ground that it was essential to use it in the original form if comparisons were to be made with Hart's control group and alleged "leaders of social progress." Of course, in later work it will be entirely possible to devise interest questionnaires which will give exactly the desired emphasis to each topic of any selected list. *

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* Ruby Borden, a graduate student at the University of Cincinnati, has worked out an interest questionnaire, under the writer's supervision, consisting of six lists of twelve items each, with six major topics only considered. Each topic is represented in each list by two items. This arrangement is in contrast to that of the Hornell Hart questionnaire with its several lists varying in length, and its items selected without adequate advance classification. The interest questionnaire prepared by Miss Borden is being used in two researches on the relation of interests to character.

Table 14 gives the detailed classification of the interest items, together with the location of the items in the test booklet. The items from the Freyd Likes-Dislikes questionnaire and from the Hornell Hart test have been thrown together, logical considerations alone determining the order. *

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* The occupational items are not here classified, but receive separate treatment.

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The tables showing the detailed reactions to the interest items give more information, of course, regarding those from the Hornell Hart test, since there were seven possible reactions to these items (L**, L*, L, N, D, D*, D**), and only three possible reactions to the Freyd items (L, N, D). For the former items, the direction in which differences lie can be determined from the percentages marking the strong reactions, even where practically all members of the two groups concur in the same general affective reaction. On the other hand, if practically all members of two groups like or dislike a certain item in the Freyd questionnaire, no differences appear.

Three major headings will be noted: Attitudes toward various personal activities and satisfactions, toward various people and relationships with people, and toward various social, moral, and religious problems. The first category stresses interests which are primarily individualistic and personal, the last category interests in larger social relationships and attitudes toward certain abstract ideas. The intermediate items reveal attitudes regarding personal contacts with people, types of people, family relationships, and other topics which are neither strictly individualistic nor strictly social in nature.

The detailed classification of items under

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sub-topics is a matter of opinion. No attempt was made to secure judgments of other persons than the writer, since the arrangement is one of convenience and does not affect the statistical handling of the data.

I. Attitudes toward various personal activities and satisfactions. The first sub-topic is Success in Work, with but one item, DO A GOOD PIECE OF WORK. This item is followed by a group of seven items which suggest Financial Success.

Uncomfortable or Unpleasant Personal Experiences are represented by five items, one of which, BE BORED, might perhaps equally well be placed under the heading of Social Relationships.

A fairly long list of items is headed Sport and Outdoor Recreation. One of these items appears, in essentially the same form, both in the Freyd list and the Hornell Hart test, DRIVING AN AUTOMOBILE in the former and DRIVE AN AUTOMOBILE in the latter. *

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* The reactions to these two items might be expected to agree closely, on a priori grounds. In the main this is true. Where there is disagreement, the group of individuals whose reactions are reported for the one item is not identical with the group whose reactions were reported for the other item. See page

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Three groups of items are headed respectively, High Grade Reading and Other Leisure-Time Activities,

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Popular Reading and Other Leisure-Time Activities, and Low Grade Reading and Other Leisure-Time Activities. In these three groups, the discrimination has been made arbitrarily. For example, LITERARY DIGEST might have been included as Popular Reading rather than as High Grade Reading. No doubt some would have included HAROLD BELL WRIGHT under High Grade Reading. It is unfortunate, perhaps, that the Low Grade Reading and Other Leisure-Time Activities included only three items, SMART SET, SNAPPY STORIES, and VULGAR SHOWS. The mimeographed test form printed SNAPPY STORIES without capitalizing the initial letter of the second word, and as the detailed discussion will point out, the members of one or more groups quite possibly interpreted this item not as the name of a magazine but as simply a label for certain types of stories.

Interest in Humor may perhaps be shown by interest in one or all of the items classified under Humor, but it is recognized that Humor is of many types. The stimuli used range from certain humorous magazines to CHARLIE CHAPLIN and WITTY PEOPLE. One would not expect identical reactions from any individual or group to all the items in this list, or indeed to all the items in any of the lists.

It was difficult to find a suitable heading for the next group of items. General Curiosity was finally

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selected as fairly appropriate, though perhaps MEET PEOPLE WHO TALK INTERESTINGLY hardly belongs with FINDING OUT ABOUT THE WORLD. Here, as elsewhere, readers are invited to take the classification of items as suggestive rather than final.

The items in the next two groups were still more difficult to classify. Under what topics does CLEAR THINKING belong? It has been listed with DISCOVER TRUTH, DO RESEARCH WORK, etc., under Scientific Interest. TRY EXPERIMENTS and SCIENTIFIC AMERICAN have, on the other hand, been classified under Manual and Mechanical Interests. These three groups of items, General Curiosity, Scientific Interest, and Manual and Mechanical Interests should be considered together, and will be so considered in the detailed discussion of group differences.

Two items are related to interest in Music, these of quite different types. HEAR SYMPHONIES suggests the auditor's interest in Music, while PLAY IN AN ORCHESTRA suggests the performer's interest.

A few items relate to Oral Self-expression, these varying from ARGUMENTS to MAKING A SPEECH.

The final items in Part I, LIVING ON A FARM and LIVING IN THE CITY raise the question of Rural or Urban Residence.

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II. Attitudes toward various people and relationships with people. First under this topic come several items which suggest Leadership or Managing People: HAVE AUTHORITY, BE A LEADER, etc. It is difficult to interpret the reactions to two items here classified, PEOPLE WHO TEND TO ASSUME LEADERSHIP and PEOPLE WHO ARE EASILY LED. Comment on these points is reserved for the detailed discussions of group differences.

The list of eight items headed Activities in which Social Contacts are Important is made up of a rather wide range of topics. The social contacts involved in CHEQUERS are rather different from the ones involved in CONVERSATIONS or LISTENING TO A STORY. Many other items which are found under other classifications, might be included here. *

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* For a complete list of items which might be included under this heading or the next heading, see the derivation of the score for interest in social contacts, Attitudes VIII, p.

In contrast, two items are here classified as Activities in which Social Contacts are at a Minimum. This list likewise might be expanded from other parts of the questionnaire.

Two groups of items are classified under ~~Conformity~~ to Social Usage and Susceptibility to Social Opinion.

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These, perhaps, might properly be combined. They will be discussed together when group comparisons are made.

Several groups of items relate to views about Family Relationships, interest in Family Relationships, Sentiment concerning children, members of one's family, home, etc. In order not to have too long a single list, these have been broken up under the headings indicated in the table. Family Relationships (general) include reading ABOUT EUGENICS, MAKE DIVORCE HARDER, HONORING OF PARENTS BY CHILDREN, and NEGLECT OF AGED PARENTS BY THEIR CHILDREN. The phrasing of each of these items suggests an abstract question rather than a personal relationship within one's family. The next group of items is composed, on the contrary, only of items which are so phrased as to suggest relationships within the subject's own family. A short list of items deals with Children, but comprises quite a range. The people who like strongly to PLAY WITH CHILDREN may not necessarily be interested in reading ABOUT THE PROPER FEEDING OF CHILDREN. This is found to be the case in certain of the group comparisons. The items classified under Sentiment are likewise varied, while the two items headed Home, might have been classified differently. MAKE IMPROVEMENTS IN YOUR HOME was in fact classified by

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Hart under Sentiment, while LADIES HOME JOURNAL might be listed as Popular Reading.

A short group of items suggests degree of interest in Friendship, as such. This is followed by three groups of items, wherein types of people are listed. These types of people may be liked or disliked or may receive a merely neutral reaction, the reaction depending so far as this questionnaire is concerned, solely upon a single trait in each case. *

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* These types of people furnish the basis for one of the tentative measures under attitudes, Attitudes VI, Range of Tolerance for People of Various Types, p.

While in actual life people possess many traits rather than one trait, it is probably desirable to ask for a reaction of just this sort, where one outstanding trait is singled out for attention.

III. Attitudes toward various social, moral, and religious problems. The third major group of topics is perhaps more significant than the first two. Attitudes in this realm and on this level should especially concern teachers and students.

First comes a long list of items dealing with Religion. Much consideration of these stimuli as to the extent to which they represent orthodox Christian views, general ethical and moral attitudes, etc., did not result in sub-classification of them. The

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arrangement begins with an item which is perhaps moralistic rather than religious, THE SPIRIT OF UNIVERSAL BROTHERHOOD. Next come DISCUSS RELIGION and ABOUT DIFFERENT RELIGIONS, items not suggesting particular religious views, as such. Following appears the statement, A CONSCIOUS PURPOSE, GREATER THAN THE PURPOSE OF MEN, WORKS FOR RIGHTEOUSNESS IN THE UNIVERSE, a general proposition which is basic to many religious beliefs. The following six items suggest more and more definitely personal relationships with the Divine Purpose or God. After these items another, THE BIBLE, appears, suggesting a particular religious belief, this being followed by three items in which definitely Christian standpoints, more or less orthodox, are presented. Finally come the two items RELIGIOUS PEOPLE and IRRELIGIOUS PEOPLE.

A pair of items relate to Ethical Values, while four items suggest General Interest in Social Progress.

Following these come certain Specific Social Reforms or Means to Reform. The reactions to these are exceedingly interesting in the light of Hart's findings for the alleged leaders of social progress.

Two items deal with Prohibitory Legislation. The prohibitions suggested are those of GAMBLING and SMOKING TOBACCO.

Several items are concerned with Freedom of Speech

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and Opinion. The newer freedom for women is touched upon in a couple of items listed under Feminine Propriety.

A fairly long list of items deals with problems of Capital and Labor, and some attempt has been made to arrange these items into a logical sequence. They begin with types of reading matter, ABOUT LABOR PROBLEMS, ABOUT SOCIALISM, LABOR AND SOCIALIST DAILIES, and ABOUT REVOLUTIONS BY THE WORKERS. Next appear various slogans of labor groups, perhaps in increasing order of radicalism, UNIONIZE INDUSTRY, WORKING CLASS SOLIDARITY, DIRECT REPRESENTATION IN CONGRESS BY INDUSTRIES, and SOVIET CONTROL IN INDUSTRY. Three statements follow from the final list of the Hornell Hart Test (the true-false section). The first is a common allegation of certain labor organs, NEWS PUBLISHED BY THE AVERAGE PAPER IS BIASED IN FAVOR OF THE EMPLOYERS AND BIG BUSINESS MEN. The other two statements represent views of ardent capitalists, LARGE FORTUNES HAVE BEEN MADE ONLY BY HONESTY, BRAINS, AND HARD WORK, and ALL STRIKES SHOULD BE PROHIBITED. In line with the last of these statements is the final item, SOLDIERS TO STOP STRIKES.

Political Interest as such is represented by but a single item, MORE INTEREST IN LOCAL POLITICS.

A fair number of items suggest International Relations. The more general issues are posed by the first items, HATRED BETWEEN NATIONS, INTERNATIONAL

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JEALOUSY, and CONQUEST OF WEAKER NATIONS BY STRONGER NATIONS. Then come the proposals for reform, WORLD DISARMAMENT and A FEDERATION OF THE WORLD. A specific problem is raised by the item, THE ATTITUDE OF EUROPEAN COUNTRIES TOWARD THEIR COLONIES. Finally, come four statements, each of which calls for a judgment on the type of patriotism one possesses. Perhaps the reactions to these statements may be regarded as indicative of Chauvinism or freedom from such.

The final groups of items are brief. Two items deal with Punishment of Crime, two with Negroes, and three with Schools and Teaching. No special comment appears to be called for by these topics.

(3) Tentative measures of general tendencies.

Ten tentative measures of attitudes are proposed, derived from the various interest questionnaires. To each of them a common-sense interpretation applies, as indicated below. For most of these, the title given to the measure indicates its derivation. No assumption is made that these measures represent accurately behavior differences, other than differences in reactions to types of verbal stimuli. In each case, the measure is based upon a sampling of verbal stimuli, as large as the material in the questionnaires used would permit. There is no way of telling, from the data available, whether

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the items included are a random sampling of all items which might be included under the headings used, or whether they are selective and biased along certain lines.

In each case, the proposed measure is free from the objection which applies to most of the measures in such a test battery as the Downey Will Temperament Test. In the Downey battery, most of the tests do not involve a sampling of reactions for the trait which it is assumed is measured, but merely setup one situation and secure one reaction. This is then interpreted as typical of a wide range of situations. The tentative measures here proposed are all based upon more than one stimulus or situation. It is recognized that the stimuli are all verbal, but the reactions to the words are in themselves significant, nor is the claim made that the differences found would necessarily carry over into non-verbal behavior.

No attempt has been made to secure definite measures of either the reliability or the validity of these proposed measures. The introduction of these measures into this study is wholly incidental, and any reader who prefers to wait until they can be thoroughly checked up, may neglect the discussion of these measures and the results from them, without material loss. The inclusion of the measures has been determined by their obvious

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interpretability and suggestiveness rather than by confidence in their validity.*

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* The writer plans to give extended discussion to these measures in the near future, working out their inter-correlations, etc. The problem of developing such numerical measures of attitudes might well occupy an extended research.

For some of the following measures, individual judgments might differ regarding the exact items to be included in arriving at the measure. The writer does not claim infallibility for the proposed measures.

Attitudes 1. Range of Affective Reactions. This measure was suggested by Pressey's method in scoring the X-O test for the total range of affectivity. The method is merely that of counting the number of items where L or D, rather than N, is marked, for the entire set of interest items (Occupations, Likes-Dislikes, Hornell Hart).

Attitudes 2. Range of Occupational Interests. This measure was obtained by counting the number of occupations among the thirty listed, which the subject marked Like.

Attitudes 3. Range of Occupational Distastes. This is a corresponding measure to Attitudes 2. It was obtained by counting the number of occupations among the thirty listed which the subject had marked Dislike. For attitudes 2 and 3, no discrimination is made as to the quality of the reaction, i.e., as to the particular items selected as Liked or Disliked. The numerical

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value represents accurately exactly what the measure is called, just in so far as the list of thirty occupations is representative of occupation in general. The range of occupational interests or distastes is, of course, limited by the stimuli presented.

Attitudes 4. Range of Interests in Reading. This measure was obtained by counting the number of items marked Like, in lists 5 and 6 on the Hornell Hart test. These two lists are headed "Lists 5 and 6 contain things to read or to study." As elsewhere, the validity of this measure is limited by the nature and scope of the stimuli presented. It will be noted that a rather wide range of types of reading matters is included.

Attitudes 5. Range of Recreational Interests. This measure is a companion to Attitudes 4, Range of Interests in Reading. The measure was obtained by counting the number of items marked Like, among all the items representing recreations. The same limitations, as above, are imposed by the range and types of stimuli presented. The following are the items considered: -

playing golf	dancing
fishing	amusement parks
playing tennis	picnics
swimming	Charlie Chaplin
driving an automobile	Mary Pickford
taking long walks	cowboy movies
checkers	travel movies
solitaire	vaudeville
bridge	musical comedy

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Attitudes 6. Range of Tolerance for People of Various Types. In the Freyd Likes-Dislikes questionnaire, there are a considerable number of types of people represented. Each type is indicated by a single outstanding trait, and the reactions must be interpreted essentially as a reaction to this trait. This measure attempts to get at tolerance for these types of people or these traits, by counting the number of items of this sort where the reaction is either Like or Dislike. Conceivably, any one of these types of people might be disliked by someone or other. Most people would be expected to dislike one or more of the traits or types of people. Tolerance for people of various types is presumably desirable. In terms of the test, this assumed trait is measured by determining how many, of the types represented, receive either a positive or a neutral reaction. The stimuli used here are the first twenty-two items in the Likes-Dislikes Questionnaire, beginning "Fat men."

Attitudes 7. Interest in Social Contacts. The question here is one of general interest in activities where social contacts are involved, in contrast to activities which are not necessarily social. A list of items suggesting activities where social contacts are involved was prepared, and also a list of activities where social contacts are not necessarily involved. The

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score is the number of activities in the first list which are liked minus the number of activities in the second list which are liked. The first list happens to be longer than the second, and consequently the score is usually positive. A negative score is possible, however, and occasionally occurs. The selection of items for the second list may be questioned in certain details, and is not offered as final. No attempt was made to secure a check upon it. The items in the first list are as follows: -

playing tennis
checkers
bridge
dancing
amusement parks
picnics
conventions
listening to a story
telling a story
arguments
interviews
organizing a play
mingling with people
belong to a club for study
do executive work
meet people who talk interestingly
actress
athletic director
dancing teacher
detective
employment manager
governess
missionary
newspaper reporter
nurse
retail sales clerk
social worker
teacher
discuss religion
be friends with people
be a leader

The items in the second list are as follows:

fishing
solitaire
being left to yourself
working with your hands
find out how things work
do research work
draftsman
poet
scientific research worker
window trimmer
commune with the Great Spirit

Attitudes 8. Interest in Labor Problems. This measure rests upon more personal interpretation than

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do some of the others. A list of items was prepared, drawn solely from the Hornell Hart test, where a strong reaction would indicate an interest in labor problems, as such. Since the attitude which it was desired to measure was that of interest in labor problems rather than interest in labor, it was immaterial whether the reaction was positive or negative. For certain groups, the reaction to individual items showed that there was great indifference to labor problems. This measure indicates the degree of concern felt about labor problems rather than the direction of the sympathies of the subjects. The measure was derived by counting the number of items marked L or D, plus the number of crosses placed before the selected items, in the test booklet. Thus, a reaction of N counted zero, a reaction of L or D counted one, a reaction of L* or D* counted two, and a reaction of L** or D** counted three. The list of items is as follows:

labor and socialist dailies
about socialism
soldiers to stop strikes
working class solidarity
unionize industry
News published by the average paper is biased in favor of the employers and big business men
about labor problems
about revolution by the workers
collective bargaining
Soviet control in industry
Direct representation in Congress by industries
Large fortunes have been made only by honesty, brains, and hard work
All strikes should be prohibited

Attitudes 9. Interest in International Relations.

A similar measure of interest in international relations

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was obtained. The items selected were treated in exactly the same manner as for Attitudes 8, the same scoring system being adopted. The list of items is as follows:

conquest of weak nations by strong nations
international jealousy
hatred between nations
world disarmament
the Japanese are an inferior but dangerous people who need to be taught that we are masters of the Pacific Ocean
the United States has at times been tyrannical toward weaker nations
The attitude of European countries toward their colonies
a federation of the world
no country ever had as good laws, or as good a government, or a culture as good in any way as we people of the United States have
"our country, right or wrong!" is a noble sentiment

Attitudes 10. Orthodoxy in Religion. Because of the tremendous importance of the religious attitudes, an attempt was made to evaluate the various items which might be classified under religion, with a view to measuring the degree of orthodoxy along conventional Christian lines. The following items were finally selected, for treatment in the same manner as Attitudes 8 and 9:

religious people
irreligious people
discuss religion
feel that God has forgotten you
commune with the Great Spirit
about different religions
the Bible
more harmony with the Divine Purpose
more use of prayer
more faith in God
Christianization of the world
application of Christian ideals to modern industry
the spirit of universal brotherhood
a conscious Purpose, greater than the purposes of men, works for righteousness in the universe

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By means of prayer one may, in time of need, get help from spiritual powers outside himself	It is irreverent, or sacrilegious, to put Jesus Christ into the same class with Buddha, Confucius, or Socrates

f. Measures of Socialization

(1) General.

The weightiest part of the test battery is that given to the Hart "Test of Social Attitudes and Interests." Hart states, however, in his one published report on this test (32, pp. 8 - 9):

> "The present study consists in an analysis of certain experimental data obtained with that version of the test known as Form B. It does not present any method of scoring; it seeks merely to demonstrate that reactions to Form B are highly differential as between socialized and unsocialized individuals."

A valid scoring method would obviously yield results of great interest. Freyd (25), following the lead of other workers at the Carnegie Institute of Technology, presents a method for deriving a measure which will differentiate two groups, the members of which have given their reactions to such a test as the Hart test. This method has been adapted to the needs of the present investigation.

Hart presents the results for his two major groups, his group of leaders and his control group, in terms of percentage distributions of reactions to the various

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items in groups (see Table 15), along a scale of reactions ranging from L** (like most strongly) to D** (dislike most strongly). This scale has seven steps, as follows: L**, L*, L, N, D, D*, D**. A sample of Hart's tables is as follows:

Stimuli to which Positive Reactions are Suggestive of General Altruism

\- - -

Percentage distribution of the reactions of male "leaders of social progress," in comparison with those of other men who have taken the test, to the following stimuli in Form D: Help make the world happier (List 1); Stir enthusiasm for a good cause (List 3); Even-handed justice (1); Work for social justice (2); Protest against social injustice (4).

	L**	L*	L	N	D	D*	D**	Total
Leaders of social progress	28	48	16	8	0	0	0	100
Other men tested	6	19	49	23	4	0	0	100

For the stimuli listed here, it is obvious from the distributions presented that reactions of L** and L* are more commonly made by the leaders of social progress, while reactions of L, N, and D, are more commonly made by the other men tested. The differences are large enough to be statistically reliable, as may be demonstrated by application of the method for determining the reliability of differences between proportions, described in a later section of this chapter. For the purposes of determining the proportions to be compared, the reactions under two or more symbols

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may be grouped. E.g., the reactions under the symbols L** and L* total 76% for the leaders of social progress and 25% for the other men tested. The difference is of high reliability.

To secure a scoring key for the items just listed, the reactions are thus grouped in such a way as to bring out the differences, and a value of plus 1 assigned to reactions which are more commonly made by the leaders of social progress, and a value of minus 1 to the reactions which are more commonly made by the other men tested. For the illustrative table, the reactions of L** and L* are given a value of plus 1, and the reactions of L, N, and D, are given a value of minus 1.

Since Hart does not give us the reactions to the individual items, but only the sum of the reactions to the items in groups, it is necessary to assume that he has grouped together items yielding similar distributions of reactions. On the whole, this assumption appears to be justified by the illustration which he gives in his study. He gives the following illustration of the method of deriving the distribution just presented for the thirty-three leaders of social progress. Since there were thirty-three leaders, and five stimuli in the group, the distribution is for one hundred and sixty-five reactions, as indicated in the following table:

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	L**	L*	L	N	D	D*	D**	Total
Help make the world happier	13	12	4	4	0	0	0	33
Even-handed justice	6	17	7	3	0	0	0	33
Work for social justice	7	21	4	1	0	0	0	33
Stir enthusiasm for a good cause	12	13	6	2	0	0	0	33
Protest against social injustice	8	17	5	3	0	0	0	33
Total.....	46	80	26	13	0	0	0	165
Percentage .. distri-bution ...	27.9	48.5	15.8	7.9	0	0	0	100.1

The procedure adopted thus results in treating all the items in any one of Hart's seventeen lists in exactly the same way, for scoring purposes. It would be possible to get a slightly more exact score for certain items, doubtless, were the complete distributions by items available. However, the scoring method is probably highly valid as it stands, for purposes of differentiating the leaders from the control group.

Not all of Hart's distribution tables are as easy to evaluate, for purposes of deriving a scoring key, as is the first table, which has been presented. A certain amount of judgment was called for, in determining the reaction symbols to be grouped together for

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assignment of the value of plus 1 or minus 1. Only such reaction symbols have been grouped together as would yield, as a group, differences of high statistical reliability. In one or two cases, the selection of stimuli to be grouped together has been somewhat affected by logical considerations. Any reader who may be concerned to use this method of scoring the Hart test is advised to check back the scoring key given here (Table 16) with the original tables in Hart's report of his work. *

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* The writer plans to present a further study of the general measurement of socialization by the Hart tests, in connection with the investigation of the several proposed measures of attitudes, earlier described.

The score for socialization must be interpreted in the light of its derivation. It is derived by comparing the reactions of a group selected as leaders of social progress with the reactions of a group of relatively unselected men. The higher the score, the more closely the individual resembles the leaders of social progress in his reactions. The lower the score, the more closely the individual resembles the unselected group in his reactions. The measure is valid just in so far as Hart's differential groups are well selected as representing a high degree and a low degree, respectively, of possession of the trait socialism.

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The selection of these groups has already been discussed in Chapter I.

Socialization, as measured by this test, is thus literally defined in terms of the differences between Hart's group of leaders and his control group.

Although the only use made in this research of the general measure of socialization obtained is in group comparisons, together with some wholly incidental correlations with age, intelligence, etc., it is of interest to note the reliability of the measure. Would scores on socialization change materially were the test to be repeated after an interval? How reliable an indication of an individual's standing is a single measure of socialization, obtained by this procedure?

These questions are not of immediate significance for this research. The only questions with which this research is directly concerned are those of group comparisons, and for these all differences used in the discussion have been evaluated with reference to reliability so far as affected by errors of simple sampling. The degree of reliability of each group difference which is discussed has been determined. At the same time, the questions raised above must be given consideration before the proposed measure of socialization may be considered a worth while addition to the measures

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available for analyzing individual differences.

No evidence has been obtained in this research on the reliability of the individual scores obtained by this measure of socialization. The method of determining the measure is based, however, upon the method which Freyd developed for scoring his Interest Analysis Blank (24, 25, and 26). The reliability of the measure of socialization may logically be expected to be in fair agreement with the reliability of Freyd's Interest Analysis Blank. As an indication of the probable reliability of the measure of socialization, a quotation from a recent article by Hubbard is in order. It is recognized that there is no statistical evidence to guarantee the applicability of the statements made for the one measure to any new measure similarly derived, but it is of value to point out that the scoring method has demonstrated its worth in previous investigations. The following summary is quoted from Hubbard's report (40):

> "1. The problem of the reliability of Freyd's scoring method for his Interest Analysis Blank was attacked in two ways - by means of reliability coefficients and by studies of changes made in individual scores.
>
> 2. The reliability coefficients were - for the men +.64 and +.52 for year and six weeks intervals respectively; for the women +.49 and +.47 for year and six weeks intervals respectively.
>
> 3. The reliability coefficients for shorter time intervals were lower than for longer time intervals due possibly to more favorable conditions of testing for the latter.

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4. Although the correlations appear low when compared with the reliability coefficients of intelligence tests, yet they are significant when considering such variable traits as inclinations and when obtained on such homogeneous groups as these.

5. By comparing individual scores in original test and retest, a large percentage of those who scored in the extreme divisions of the scale at the first testing, were found to remain in the same divisions at a later retesting even though the time interval was slightly more than a year.

6. Very small percentages ranging from less than 2 per cent to 7 per cent were found to move from the 'social' division to the 'mechanical' or vice versa.

7. Therefore the Freyd scoring method of the Interest Questionnaire is reliable enough to justify its further use in differentiation. Not only have group differences been found significant (26), but even individual scores appear to be both significant and surprisingly permanent.

8. The question of its reliability cannot be considered settled till more work with even more cases has been done and till the results of this study have been confirmed by experiments on other groups, in other localities and using longer intervals of time."

(2) Detailed.

Two groups may differ in general level of socialization, as measured by the method outlined in the preceding section, yet not differ in the same direction in every detail which contributes to the general picture of socialization. For purposes of comparison as to detail of reaction, on the various sub-factors which are involved in securing the socialization score, as well as for comparison of the groups of this investigation with the groups measured

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by Hart, the reactions of the subjects of this investigation have been treated in exactly parallel fashion to Hart's treatment. Hart presents seventeen lists of items which he found differential as between his major groups (Table 15). The reactions to the items in these seventeen lists have been tabulated in exactly similar fashion, for the twelve groups of subjects of this investigation, the results being presented in Tables 293 to 309. These tables likewise include the results for Hart's groups of leaders and unselected men. Detailed discussion of differences found between the groups of this investigation, following the outline given by Hart, will be presented in later chapters.

One general factor involved in the measurement of socialization by this procedure, may be mentioned. This is the possibility that sex differences are operative to cause the measure of socialization obtained by the differential reactions of groups of men to be less valid when applied to groups of women. Since most of the items which influence the score are apparently no more potent for one sex than for the other, it seems probable that the measure is about as valid for women as for men. On the other hand, in some of the detailed reactions sex differences may be expected. Attention will be called to such in their proper place.

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C. STATISTICAL TREATMENT

1. GENERAL

Two classes of data have been obtained: first, percentages of groups which fall under a particular rubric (e.g., marking a particular item "like"); and second, distributions for which the means and standard deviations have been determined. In each case, differences have been determined between the various groups studied, and the degree of reliability of these differences, so far as it depends upon errors in sampling, has been determined for the differences made the basis of discussion.

For differences in proportion amounting to 10% or over, the reliability has regularly been calculated. In a few cases where the difference is less than 10%, the reliability has also been calculated. Complete data are given whereby any interested reader may verify any stated reliability, or determine the reliability of a small difference where the calculation has not been made.

For the differences between means, the degree of reliability has been determined by calculation in every case.

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2. RELIABILITY OF DIFFERENCES IN PROPORTION

The standard deviation of differences in proportion is given by the formula (Yule, 91, pp. 268-269):

$$S.D._{diff_{1-2}} = \sqrt{\frac{p_1 \cdot q_1}{N_1} + \frac{p_2 \cdot q_2}{N_2}},$$

where

P_1 = proportion in distribution 1,

P_2 = corresponding proportion in distribution 2,

Q_1 = 1.00 minus P_1 ,

Q_2 = 1.00 minus P_2 ,

N_1 = population for distribution 1,

N_2 = population for distribution 2.

The degree of reliability is affected in four ways. Other things being equal,

1. Reliability is increased by increasing either population.

2. Reliability is increased by increasing the extent of the differences in proportion, between P_1 and P_2.

3. Reliability is least when the difference is centered about the mid-point of the percentage scale, i.e., around 50%, greatest when the difference is at either end of the percentage scale, i.e., when one of the proportions is 0% or 100%.

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4. If N_1 is greater than N_2, reliability is greater when P_1 is greater than P_2 than it is when the reverse is the case; i.e., reliability is greater when the difference is in such a direction that the greater proportion is with the greater population.

These four factors of size of population, size of difference between proportion, location of the difference along the percentage scale, and direction of the difference, are so complicated in any given comparison as to make it impracticable to estimate closely reliability of difference in proportion. It is necessary to calculate the reliability in each case.

Fortunately, "A Table of Standard Errors and Probable Errors of Percentages for Varying Number of Cases" has recently been published by Edgerton and Paterson (19). This table is based upon the formula given by Yule for the standard error of a proportion:

$$S.D._p = \sqrt{\frac{pq}{n}},$$

where p equals the percentage or proportion, q equals the difference between p and 1.00, and n equals the number of cases (91, p. 257, formula # 2). The table gives not only the standard deviation of the proportion, but also the square of the standard deviation. In the formula for the standard deviation of a difference between proportions, quoted earlier, the quantity under the radical sign is the sum of the squares of the

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standard deviations of the proportions.

It accordingly becomes possible to devise a simple form for the calculation of the standard deviation of differences in proportion, by the use of the Edgerton and Paterson table. A copy of the form used in this investigation is included in the appendix. Approximately 2000 such calculations were performed in carrying through the research.

3. RELIABILITY OF DIFFERENCES BETWEEN MEANS

The reliability has been calculated for all reported differences between means. The standard deviation of the differences have been obtained by the usual formula (29, p. 129):

$$S.D._{diff._{1-2}} = \sqrt{\left(S.D._{mean\ 1}\right)^2 + \left(S.D._{mean\ 2}\right)^2}$$

This formula involves finding the standard deviation of each mean by the formula,

$$S.D._{mean} = \frac{S.D._{dis.}}{\sqrt{N}}$$

Tables 17 to 37 inclusive, report the means, standard deviations of distributions and standard deviations of means, for the various measures which yielded means. In the rough tables from which these have been copied, an additional column appears for the squares of the standard deviations of the means.

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The figures from these tables were transferred to prepared forms for finding the standard deviation of the differences between the means. A copy of the form used is included in Appendix B. One hundred and eighty-nine such calculations were made in carrying through this research.

4. FORM OF STATEMENT OF RELIABILITIES OF DIFFERENCES

For all differences which are basic to the discussion, whether between proportions or between means, the standard deviation was calculated, as described above. The forms used give further provision for recording the ratios of the differences to their standard deviations.

The best assumption regarding the distributions of differences which would be found were an infinite number of differences to be obtained under the same conditions as those maintaining for the one obtained difference, is that these differences would be normally distributed. This hypothetical distribution may be described by locating the only obtained difference as its mean, and letting the standard deviation of this difference be the standard deviation of the distribution.

It then becomes possible to determine what proportion of this normal distribution will lie above any selected point on the base line. Specifically,

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since the base line is in terms of the units in which the difference is measured, as well as in terms of standard deviation units, it is possible to determine what proportion of the area of the distribution lies above the point which marks just no difference. This proportion may be interpreted as the proportion or chances that the differences which would be obtained were the number of cases indefinitely increased, all other conditions maintaining as for the actual measurements, would remain greater than zero and in the same direction as for the obtained difference.

In simpler terms, the ratio of the difference to this standard deviation may be made to yield, by the use of a table for the fractional parts of the total area under the normal probability curve, a statement of the chances that the true difference for an infinite number of cases, is in the same direction as the obtained difference.

If the area under the normal probability curve is divided into 100 equal parts, the statement may be in terms of chances in 100; if it is divided into 1000 equal parts, the statement may be in terms of chances in 1000, etc. Statisticians commonly speak of 999 to 1000 chances in 1000 as "practical certainty." A ratio of a difference to its S. D. amounting to three

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or over means partial certainty in this sense, as will be seen below.

If the difference is three times the size of its standard deviation, then that part of the assumed normal distribution of differences which will fall above the difference of zero, will be represented by one half of the area under the normal curve (the half above the mean), plus that proportion of the area which falls between an ordinate drawn at the mean ~~end~~ and an ordinate drawn 3 S. D. below the mean. Table X in Garrett, "Statistics in Psychology and Education," page 91 (29), gives the fractional parts of the total area under the normal probability curve, corresponding to distances on the base line between the mean and successive points laid off from the mean in terms of standard deviation. This table reveals that there are approximately 499 parts in 1000 between minus 3 S. D. and the mean. There are 500 parts in 1000 above the mean. Consequently, there are 999 chances in 1000 of a real difference, if the obtained difference is three times as large as its standard deviation. Statisticians commonly interpret a ratio as large as three in this case as meaning practical certainty. This means that the chances of a real difference are at least as large as 999 in 1000, and approach 1000 in 1000.

To put the statement of chances for this research

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into terms which would be comprehensible to the ordinary non-statistically trained reader, all ratios between differences and their standard deviations have been translated into the number of chances in 1000 that a real difference would maintain in the same direction, were the number of cases indefinitely increased, under identical conditions of selection, testing, etc.

Table II in Pearson, "Tables for Statisticians and Biometricians" (59), which gives area and ordinate in terms of abscissa, yields the desired statement of chances directly, and has been used throughout this research.

In the tables which present differences between proportions, the final column is headed "Rel" (reliability). The figures in this column always mean the number of chances in 1000 that the differences can be trusted. A similar statement of reliability is given in the tables presenting differences between means. It may be noted that 1000 chances in 1000 occasionally appear. This does not mean absolute certainty, but merely that the chances are closer to 1000 than to 999.

5. LIMITATIONS OF STATISTICAL TREATMENT

It should be borne in mind that the statistical treatment of reliability allows only for variations

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due to errors in simple sampling. In other words, the assumption is made, for the purpose of stating the reliability of a given difference, that the groups compared would be increased indefinitely in size, without alteration of the fundamental conditions of selection, testing, etc.

For example, suppose that the chances are 987 in 1000 that the teachers would surpass the sophomores in some particular respect, were the numbers of each group indefinitely increased. For the statement of reliability to hold good, the groups to be compared would still have to be unmarried women teachers, who are taking courses outside of school hours in such an institution as the College of Education of the University of Cincinnati, and unmarried sophomore women enrolled in such a course as that in Educational Psychology, in such a university as the University of Cincinnati. For groups thus selected, and tested under the same conditions as maintained for the present research, there would be 987 chances in 1000 that the differences would maintain in the same direction.

Differences found may hold good for many groups selected under conditions but slightly differing from those of this research, but the statistical treatment of reliability does not enlighten one regarding such possibilities.

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D. SUMMARY

Groups of college sophomore girls, women student-teachers, unmarried women teachers-in-service, and young women studying public school music, were measured by a two-hour battery consisting of an intelligence test, an association test, a general interests questionnaire, an occupational interests questionnaire, a test of social attitudes and interests, a questionnaire on leisure-time activities, a personal history questionnaire, and a self-rating device. Comparisons are made between the groups measured, in terms of all of the measures used except the self-rating scheme, which was finally abandoned for the purposes of this research.

The differences found are uniformly stated in terms of differences in percentage or differences between means. For all differences basic to the discussion, the reliability has been calculated in terms of the standard deviation of the differences. This statement of reliability has then been translated into the number of chances in 1000 that the difference would persist were the groups measured indefinitely increased in size, under the same conditions of selection and testing.

Differences found between the major groups of the investigation have been interpreted in the light of

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differences between sub-groups selected on the basis of age, training, and intelligence.

Correlations between measures have been used for explanatory purposes but sparingly. Group differences rather than correlations furnish the major basis for discussion.

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CHAPTER III. COMPARISON OF SOPHOMORES WITH TEACHERS

A. GENERAL

The groups of sophomores and teachers have been described in Chapter II. The major differences are those indicated by the names of the groups, and that of age.

The college sophomores, in contrast to the teachers, may perhaps be expected to be less serious-minded, less concerned about social welfare and social progress, more active in sports and the social life which is typical of college groups, etc. These and many other differences may naturally be assumed by many people to go along with the fact that the sophomores are youthful students, not yet earning their own way, or much concerned about professional training, while the teachers are relatively mature persons, with experience in earning their livelihood by service in the educational profession.

It is the first concern of this chapter to point out the differences in these and similar regards which actually maintain between the groups studied. In some cases popular expectation will doubtless be verified, while in others, unexpected differences and similarities between sophomores and teachers may be found. Even people who know intimately both many sophomores and many

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teachers would doubtless argue among themselves as to the differences between these groups with regard to many attitudes. This chapter may be regarded as an attempt to set forth impartially the actual facts, so far as they are revealed by the reactions which the sophomores and teachers make to the same attitudes stimuli.

The sophomores have a mean age of 19.78, the teachers of 33.96 (Table 31). There is almost no overlapping of the two groups. 80 out of the 87 sophomores are aged 18, 19, or 20. The lowest age for any of the teachers is 21, while the entire distribution shows them rather evenly distributed up to about 42 years of age. The highest age reported is 55. There is a large difference, of course, between the standard deviations of the two groups. For the sophomores, this is 1.12 years, for the teachers 8.02 years.

The difference in age between the two groups may be held partly but not wholly accountable for other differences found. What are the changes in attitudes which age brings to teachers? Did the teachers have the same attitudes as the sophomores, when they were the age of the sophomores? Not all of the teachers were sophomores in college; about half of them attended normal school instead of college. Are the attitudes of the normal school group different from the attitudes of the college

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group? Do the teachers differ from the sophomores in attitudes because they are brighter or duller than the sophomores? Unfortunately, direct comparison cannot be made here, since the data on the absolute intelligence of the sophomores are unreliable, but we may raise the question: what are the differences in attitudes between duller and brighter teachers, and between duller and brighter sophomores?

At least partial answers can be found for most of these questions, from the data collected in this research. The present chapter deals directly with differences between sophomores and teachers. Its business is to state these differences, with only such interpretation as may come from the general conditions which hold in comparing relatively immature students with relatively mature experienced teachers. Further discussion will be given later to the questions regarding age, training, and intelligence. Each of these factors will receive separate treatment in one or more chapters. The findings from all these will finally be related back to the question of the differences between the sophomores and teachers.

B. SOCIAL AND ECONOMIC BACKGROUND

The evidence regarding social and economic background of the groups studied is mainly derived from

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the answers to the personal history questionnaire (Table 310). The following discussion will bring together the answers to questions which seem more or less related, rather than follow the sequence of the personal history questionnaire as printed in the test booklet. First comes a series of items about the economic and educational background of the home, and then certain items on the social background. Next appear items dealing with the relationships of the subject to her family in childhood, with last a group of items on the subject's satisfaction with her early environment.

1. ECONOMIC AND EDUCATIONAL

No significant differences are found in the education of the fathers of the sophomores and teachers. On the other hand, reliable differences appear in the education of the mothers. On the whole, the mothers of the sophomores received more schooling than the mothers of the teachers. More of the mothers of the teachers finished the elementary grades, but did not complete a higher unit of education. More of the mothers of the sophomores completed high school.

Approximately one more child to a family is found for the teachers than for the students or sophomores (Table 311). The means are 4.21 for the teachers, and

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3.25 for the sophomores. The difference is reliable. For both groups, the complete distributions are skewed to the upper end, with an occasional subject coming from a family with nine children. The largest family reported had thirteen children. Sociologists report that larger families are on the average less well-to-do and of a lower social status. This measure may possibly give a better indication of the social and economic background than the direct question, the answers to which are next reported.

One significant difference appears for the subjects' ratings of the financial circumstances of their families when they were children. More of the teachers rate their family circumstances as poor. The exact percentages giving this rating are 5% for the sophomores, and 15% for the teachers. It follows that 10% more of the sophomores than of the teachers rate their parent's circumstances as moderate or well-to-do. This difference is of good reliability.

If the better education of the mothers of the sophomores, the notably larger families from which the teachers come, and the greater number of teachers who rate their family circumstances as poor are considered together, it can be definitely said that the teachers, on the average, come from homes of lower economic status. Sociologists state that size of family is a good indication

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for group differences in economic status. This one bit of evidence alone might suffice, but coupled with this is the subject's own report of economic status.

2. SOCIAL BACKGROUND

Only insignificant differences appear in the answers to the question regarding LIMITATION OF FAMILY ACQUAINTANCESHIP TO PEOPLE OF THE SAME RELIGIOUS BELIEF.

On the other hand, a highly significant difference amounting to 26%, indicates that more of the families of the sophomores MORE OFTEN DID THE ENTERTAINING. This question was adapted from Freyd's questionnaire, wherein he asked his subjects to report on whether their families were "MORE OFTEN INVITED" or "MORE OFTEN INVITED." The object was to secure an indication of the social adaptation of the family. Presumably that family which is more often invited, or more often entertained, is somewhat better liked, and better socially adapted. In the case of these groups, the indication is that the families of the sophomores were better adapted socially.

3. FAMILY RELATIONSHIPS

11% more of the sophomores were YOUNGEST CHILDREN, 7% more of them were ONLY CHILDREN, 5% more of them

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were OLDEST CHILDREN. On the other hand, 23% more of the teachers come IN BETWEEN the youngest and oldest. We may say, then, that the sophomores more often represent either the family of one child, or the oldest or youngest in a family of a number of children, whereas the teachers more often represent the intermediate child in a family of three or more children. The fact that more of the sophomores come from families of one, two, or three children, of course in part accounts for the differences found here.

No significant differences appear with regard to the treatment the subject received as a child, in comparison with her brothers and sisters.

Significant differences are again lacking in the answers to the question regarding which parent was liked better by the subject in childhood. Significant differences are likewise lacking with regard to which parent has most influenced the subject.

15% more of the teachers state that the MOTHER was the dominant parent in the family, while 21% more of the sophomores state that NEITHER mother nor father was dominant. These differences are statistically reliable. It may be noted that 6% more of the teachers report the FATHER as the dominant parent in the family, the sophomores tending more often to rate NEITHER parent as dominant.

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While not necessarily showing greater maternal influence in the lives of the teachers, the evidence points in this direction. There are indications that in the homes of the teachers there was a poorer family adjustment, or at least a less equal division of authority between the parents.

4. SATISFACTION WITH EARLY ENVIRONMENT

Significant differences are not found for the questions relating to RUNNING AWAY FROM HOME.

Reliable differences appear in the answers to all of the questions relating directly to satisfaction with early environment. In each case, more of the teachers would DESIRE A CHANGE, IF THEY HAD THEIR CHILDHOOD TO LIVE OVER AGAIN. More of them would desire a CHANGE IN HOME AND OTHER ENVIRONMENTAL CONDITIONS, A WEALTHIER ENVIRONMENT, MORE REFINED PLAYMATES, and MORE CHEERFUL CONDITIONS. These findings all tie up well with the earlier ones regarding financial circumstances, social adaptation in the home, etc.

5. SUMMARY

The major differences may be summarized as follows: The teachers tend to come from homes of lower economic status, where families were larger by one more child, on the average, and where the educational status of the

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mother, if not that of the father, was somewhat lower. The home life of the teachers, in their childhood, was less cheerful, and showed less social adaptation. In the families of the teachers, one or the other parent was more apt to be dominant, this being the mother in more cases than the father. The teachers indicate greater dissatisfaction with their early environment than do the sophomores.

These differences may be compared with those which Freyd found between his socially and mechanically inclined. His mechanically inclined subjects came from smaller families than his socially inclined subjects, *

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* Freyd does not present the actual percentages for this difference; 25, p. 49.

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but in all other respects differed from the socially inclined subjects as the teachers differ from the sophomores in the above summary. Freyd states, "There is a remarkable correspondence between the traits described in the theoretical literature as native to the introvert and the extrovert and those which differentiate the mechanically inclined from the socially inclined, the mechanically inclined corresponding to the introvert and the socially inclined to the extrovert" (25, p. vi).

Freyd uses his information on personal history

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differences to explain the origin of the differences between the introverted mechanically inclined subjects and the extroverted socially inclined.

It may perhaps follow that the personal history differences between the teachers and sophomores would tend to make the teachers more introverted and the sophomores more extroverted. Mechanical inclination appears largely to be a compensation for lack of social adaptation, according to Freyd. Other compensatory behavior is, of course, possible, and it may even be questioned whether choice of teaching as an occupation may not be more characteristic of the non-socially adapted than of the socially adapted.

One other significant fact of personal history, which does not appear in the answers to the questionnaire, must not be overlooked. The teachers included in group C have all reached the age for marriage. Half of them are over thirty-three years of age. They are all unmarried. The sophomores are likewise unmarried, but they are young, are still in college, and will later marry, in an unknown but doubtless fairly large number of cases. Failure to marry is on the whole a sign of lack of social adaptation, - not for all women, doubtless, but for many. The teachers may naturally be expected, therefore, to rank below the sophomores in social adaptation, on the average. This conclusion is in accordance with that

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of the preceding paragraph.

The returns from the personal history questionnaire indicate a less successful social adjustment on the part of the teachers and a greater tendency for them to be introverted. The fact that the teachers measured are all unmarried, whereas there is reason to expect a considerable number of sophomores to marry after leaving college, lends additional weight to this conclusion.

C. INTELLIGENCE

A difference of eight points in mean Army Alpha score is found between the sophomores and the teachers (Table 311). The sophomores secured the higher mean score. This difference is statistically reliable, but this guarantee of reliability, implies the maintenance of all the conditions obtaining in the actual testing. Unfortunately the average score for the sophomores cannot be relied upon.

In the first place, the mean score of 155.0 for the sophomores is incredibly superior to the mean score for the students in Psychology 1 classes, tested over a period of several years. As calculated for 208 cases from the records of the Psychology Department, this is 139.7, with a standard deviation for the distribution of 25.7. The Psychology 1 classes are composed mainly of sophomores, with a sprinkling of

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upper classmen. The large standard deviation may be accounted for by the presence of these upper classmen. The sophomores in the present investigation were tested in classes exactly parallel in academic level to the Psychology 1 classes. It is incredible that the present group of sophomores would much excel the Psychology 1 students.

In the second place, the sophomores appear to excel the student-teachers. This is likewise incredible, in view of the careful selection of the student-teachers through over four and one-half years of college. Evidence from other institutions is not wanting to show that seniors and graduate students (the student-teachers rank as graduate students) score higher on the average than sophomores. At Ohio State University, Alpha medians were found to be 130 for freshmen, 137 for sophomores, 140 for juniors, and 144 for seniors; at the University of Rochester, the corresponding figures are 140, 154, 163, and 160 (37, p. 21). Graduate students at Ohio State secured a median score of 157 (63, p. 271).

In the third place, an explanation for the high mean score of the sophomores is at hand. It lies in the fact that they had recently been given an intelligence test of a character very similar to Alpha, namely, the Otis Test. It is not known what the practical effect of Otis upon Alpha is, but practice effect of Alpha upon

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Alpha is fairly well known. It was found at Rochester that on repeating the Alpha Examination, using a different form than at the first test, 41 men showed a mean increase in score of 16 points, the interval between tests being 19 months, that 18 men showed a mean increase of 14 points after 14 months, and that 30 women showed a mean increase of 12 points after 18 months. These increases must be attributed primarily to practice effects, it has been shown (37, p. 78). Practice effect would seem a plausible explanation of the high mean score of the sophomores. Although it is not known how great practice effect of Otis upon Alpha is, it is probably great enough to explain the apparent 3.4 point superiority of the sophomores to the student-teachers.

It may be concluded that the apparent superiority of sophomores to teachers is probably fictitious, or at least excessive. The data at hand are inadequate for generalization herein, other than that the sophomores and teachers probably do not differ markedly in level of ability as measured by Alpha.

D. COMMONALITY OF RESPONSE

The sophomores and the teachers secure almost identical mean scores on commonality of response, as measured by the Kent-Rosanoff Free Association Test

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(Table 311). There is no significant difference in score.

Age, intelligence, education, and various other factors affect the score which a subject makes upon this test, it has been found in other investigations. These factors may play their respective roles in two directions in influencing the mean scores for sophomores and teachers. Possibly the several factors involved are such that those which might tend to give the one group a higher score than the other group are cancelled in effectiveness by those working in the opposite direction.

The finding here can only be interpreted in a negative way. The free association test has not been shown to be a sufficiently valid measure of introversion-extroversion, or any other trait, for one to say that two groups scoring the same on the test should be rated the same on any such trait. Possibly one group is more introverted than the other, or more interested in social life; if so, this measure does not reveal the differences.

E. LEISURE TIME ACTIVITIES

1. TROW TOTAL ACTIVITY SCORE

The mean for the sophomores is 139.6 (Table 311).

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The mean for the teachers is 77.2 The difference is tremendous, and is, of course, highly reliable. Considering all the activities counted here, the sophomores participate in an average of approximately seven per week, the teachers in an average of not quite four. The difference would be greater were uplift activities to be eliminated from consideration.

2. TROW PARTIAL SCORES

a. Trow Partial 1. Uplift Activities

The teachers surpass the sophomores in participation in uplift activities (Table 311). The difference is not great, or highly reliable. The means are 23 for the sophomores and 27 for the teachers; an average of somewhat over one activity per week for each group.

More of the sophomores failed to attend any operas, symphony concerts, recitals, lectures other than those of the classroom type, and failed to visit any museums or art galleries (Table 312). Church attendance is not differential.

b. Trow Partial 2. Social Activities

The difference here between the means is 25 activities (Table 311). The means are 40 for the

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sophomores, and 17 for the teachers. The difference is, of course, highly reliable. It means that the sophomores attended an average of two social activities a week, the teachers less than one.

More of the teachers failed to attend any social meetings, as of clubs or lodges (Table 312).

c. Trow Partial 3. Light Entertainment

The sophomores attended an average of 35 entertainments, of the sort here classified, in twenty weeks (Table 311). The teachers attended an average of 19. The difference is again highly reliable. The average per week for the sophomores is 1.75, for the teachers 1.

More of the teachers report no attendance at comic opera, revue, burlesque, etc., and at athletic contests (Table 312).

d. Trow Partial 4. Physical Exercise

A question of interpretation arises here. There is a difference of 22 activities in favor of the sophomores (Table 311), but it is not clear whether all of the sophomores reported the gymnasium class work which they have. Probably in most cases they did so. At any rate, there is no question but that the sophomores get more exercise, whether under compulsion

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or not, than the teachers. The average for the teachers is just slightly over one period of exercise every two weeks.

More of the teachers report no periods of physical exercise at all (Table 312). A zero reaction, meaning no participation, is given to the item, "outdoor (or gymnasium) games, - or periods of exercise - basketball, golf, etc," by 19% of the sophomores and 66% of the teachers. The corresponding figures for "walks in the country" are 43% for the sophomores and 39% for the teachers. Although more of the teachers than of the sophomores take walks in the country, there still must be a considerable percentage who get practically no exercise. The average amount of exercise for the teachers, indicated in the paragraph above, is significantly smally.

e. Trow Partial 5. Non-professional Books Read

Again, it is questionable whether all of the sophomores eliminated books read for courses. On the face of the returns, the sophomores surpass the teachers by about six books for the 20 weeks (Table 311). The means are approximately 14 and 8 for the sophomores and teachers, respectively.

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F. ATTITUDES AND INTERESTS

1. ATTITUDES TOWARD VARIOUS PERSONAL ACTIVITIES AND SATISFACTIONS (Tables 313-326)

I-1 and I-2. Success in Work and Financial Success (Tables 313-314). The first two groups of items, Success in Work and Financial Success, may be considered together. The items here which reveal significant differences show in every case a stronger tendency for the teachers to be interested in success. The strong positive reactions to DO A GOOD PIECE OF WORK are given by 10% more teachers than sophomores. Sizeable differences likewise appear for greater interest by teachers in the items THRIFTY PEOPLE, ABOUT BANKING, WIN OUT IN THE FINANCIAL WORLD, and SUCCEED IN BUSINESS. For the items ABOUT BANKING and HOW TO BUY AND SELL STOCKS AND BONDS, the negative reactions are even more differential, sophomores apparently showing a positive dislike for such items.

It is not difficult to interpret certain of these differences, in terms of the lack of experience sophomore girls in college have had in earning and handling money, in contrast with the mature teachers. So far as Financial Success is concerned, we might perhaps expect that age and maturity would contribute

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to the difference in interests here shown. On the other hand, it is likewise significant to note that Success in Work as such, shows essentially the same difference. This is in line with the general opinion that college students are less responsible and less interested in work than more mature individuals. It would indeed be astonishing if the reactions to these items gave results in the opposite direction.

I-3. Uncomfortable or unpleasant personal experiences (Table 315). Only one of the items here shows a significant difference. The strong negative reactions to the item BE BORED are given by 25% of the sophomores in contrast to 11% of the teachers. Apparently youth has not yet learned patience in this common social situation, to the extent that the teachers have. The other items do not give clearly differential reactions.

I-4. Sport and outdoor recreation (Table 316). Most of the items here listed are definitely differential, and all of these are in complete agreement. Even the items where the differences are too small to be statistically significant, yield differences in the same direction, showing sophomores more interested in these items than teachers. This is true for all three items which suggest reading matter about sports - SPORTING PAGES, SPORTING NEWS, and BASEBALL NEWS. The sports

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where the differences are highest are PLAYING TENNIS and SWIMMING. EXPLORE STRANGE COUNTRY yields a small difference of lesser reliability. DRIVING AN AUTOMOBILE is definitely more popular with the sophomores than with the teachers. These differences may be checked with the group comparisons in later chapters, and also with the results of Trow's questionnaire. Comment herein is reserved for later chapters.

I-5. High grade reading and other leisure time activities (Table 317). The throes of English 1 and English 2 in college do not bring the sophomores to a pitch of interest in the items in this group sufficient to surpass the teachers. With the exception of a single item, the teachers are more interested in the long list of items here presented than are the sophomores. This difference appears for the following items in approximate descending order of statistical significance: REVIEW OF REVIEWS, BOOKS THAT HAVE STOOD THE TEST OF TIME, EDITORIALS, ATLANTIC MONTHLY, NEW REPUBLIC, BOOK REVIEWS, PHILOSOPHY, THE CLASSICS. TRAVEL MOVIES, the only non-literary item here included, stands with the foregoing group.

In contrast to these items, LYRIC POETRY alone attracts greater interest from the sophomores. The sophomores average twenty years of age, the teachers thirty-four. While age alone probably does not explain

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all the differences in reading interests, it doubtless has somewhat to do with interest in LYRIC POETRY. Romance and youth may well be associated.

The remark at the beginning of the paragraph above is not offerred facetiously. One may well wonder why sophomores should not rate with the miscellaneous group of teachers in interest in the best of reading matter. Of course, one may excuse the sophomores easily enough, on the ground that they have many other interests. Yet one questions whether cultural education should not have gone far enough by the second semester of the second year in college, nearing the close of the period which current educational opinion assigns to general secondary education, for more than 63% of the students to be interested in THE CLASSICS, more than 53% in PHILOSOPHY, more than 56% in EDITORIALS, and more than 54% in BOOK REVIEWS. 34% of the sophomores shy away from (react neutrally or negatively to) BOOKS THAT HAVE STOOD THE TEST OF TIME, in contrast to 7% of the teachers. Must one learn by experience that BOOKS THAT HAVE STOOD THE TEST OF TIME are worth reading, or should four years of high school English and two years of college English teach this? 51% of the sophomores are neutral or negative to the ATLANTIC MONTHLY as against 30% of the teachers. BOOK REVIEWS and EDITORIALS, as well as REVIEW OF REVIEWS

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and PHILOSOPHY, might perhaps properly come to be liked in greater degree by sophomores in college than they actually are. Inspection of the high school and college English curriculum would not be amiss in the light of these reactions of students.

I-6. Popular reading and other leisure time activities (Table 318). Not so many of the items here give statistically valid differences. It is true that SHORT STORY MAGAZINES, THE RED BOOK MAGAZINE, MUSICAL COMEDY, and MARY PICKFORD are liked by more sophomores than teachers, all of these differences being of good reliability. As always, it should be remembered that the differences are all bigger and do not indicate anything regarding majority judgment. For example, 69% of the sophomores like SHORT STORY MAGAZINES, whereas only 20% of them like THE RED BOOK MAGAZINE. In both cases, however, the percentage of sophomores surpasses that of the teachers. Some of the minor differences, statistically unreliable, are yet of interest; 8% more sophomores than teachers like LOVE STORIES, and 10% more sophomores than teachers like DETECTIVE STORIES. Both groups render a majority verdict in favor of the AMERICAN MAGAZINE, the percentages liking the AMERICAN MAGAZINE ranging from 62 to 72%. As for recreation, there is a nearly 100% verdict of the sophomores in favor of MUSICAL COMEDY, in contrast to

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only a 35% interest in VAUDEVILLE. MARY PICKFORD stands in between with 65% liking by the sophomores. It may be remembered that MUSICAL COMEDY and MARY PICKFORD are differential items.

Perhaps these differences are to be interpreted in terms of general interest in romance, on the part of the sophomores. Interest in romance would hardly be presumed to be dead in any group of unmarried women of average age of thirty-four, yet they may well be surpassed herein by nineteen and twenty-year-old sophomores.

One item in this group stands out as yielding a 26% difference in the direction of greater dislike by the sophomores. This is COWBOY MOVIES. Since the teachers do not express a positive liking for COWBOY MOVIES, perhaps the difference is to be interpreted in terms of the greater familiarity of sophomores with motion picture shows. Perhaps with closer acquaintance with the sham excitement of the western thrills comes greater contempt for it. Trow's questionnaire shows greater attendance at motion pictures by sophomores than by teachers.

I-7. Low grade reading and other leisure time activities (Table 319). Only three items are included here. SMART SET does not give statistically reliable

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differences, although 7% more sophomores than teachers like the magazine, and 7% more teachers than sophomores dislike it. In both groups there is a majority verdict of neutrality, 52% in each case. SNAPPY STORIES may perhaps have been interpreted more often by the sophomores as the name of a magazine, more often by the teachers as a type of reading matter. At any rate, 24% of the teachers and only 13% of the sophomores said they liked SNAPPY STORIES, while an even 30% of the sophomores and only 39% of the teachers said they disliked SNAPPY STORIES. Both differences have fair reliability, but they are not easy to interpret. If one were to assume that all understood that the magazine was meant, it would be to smile that one-fourth of the teachers should register approval, but the assumption would probably be unwarranted. The third item, VULGAR SHOWS, draws no reactions of liking and almost none of neutrality, 4% from the sophomores, 0% from the teachers. However, the sophomores do not feel quite so strongly about VULGAR SHOWS as do the teachers. 12% of the teachers pick out this item as the one they feel most strongly about in the list where it occurs, whereas only 1% of the sophomores so react. Some of the other items in this list, with which VULGAR SHOWS must compete for the strongest affective reaction, are FEEL THAT GOD HAS FORGOTTEN YOU, BE GOSSIPED ABOUT, DO A GOOD PIECE OF

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WORK, STIR ENTHUSIASM FOR A GOOD CAUSE, and LOYALTY TO ONE'S PARENTS. In the face of this competition, it is interesting that as many as 12% of the teachers select this as the one item they feel the most strongly about.

The three groups of items just discussed raise interesting problems with regard to the attitudes both of sophomores and of teachers. Possibly sophomores need to be taught more thoroughly desirable attitudes toward high grade reading. On the other hand, the scale of values which teachers possess is well worth critical consideration. More attention to this will, of course, be paid in later chapters.

I-8. Humor (Table 320). "LIFE," "JUDGE," WORKS OF MARK TWAIN, and CHARLIE CHAPLIN all arouse more interest from the sophomores than from the teachers. On the other hand, HUMOROUS BOOKS and WITTY PEOPLE are non-differential. Although the negative reactions are not differential, they are interesting to note. "LIFE" is disliked by 8% of sophomores, 9% of teachers; "JUDGE" by 11% of sophomores, and 14% of teachers. HUMOROUS BOOKS, WORKS OF MARK TWAIN, and WITTY PEOPLE, receive almost no negative reactions, but CHARLIE CHAPLIN was disliked by 47% of sophomores and 50% of teachers. *

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* These reactions were obtained in the spring of 1926, before Charlie Chaplin had lost public favor generally.

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The four differential items indicate rather clearly more interest in humor on the part of the sophomores than on the part of the teachers.

I-9. General curiosity (Table 321). Three of the items here listed are differential, all in the same direction. The teachers are decidedly more interested in reading ABOUT HOW PEOPLE THINK, in BELONGING TO A CLUB FOR STUDY, and in FINDING OUT ABOUT THE WORLD. It can hardly be alleged that the sophomores are relatively greater students already than the teachers, as the teachers who were tested are not only engaged in more or less scholarly work already, but are even devoting what might be leisure time to additional study. The sophomores, on the other hand, are certainly not to be regarded as giving up their leisure to study. *

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* Compare the results on the Trow questionnaire.

It is true, of course, that only a minority of the sophomores give blasé reactions (N, D, D*, D**) to most of the items in this list; but the value placed upon them by the teachers is relatively greater. One item does actually call out a majority favorable verdict from the teachers and a majority verdict of neutrality from the sophomores. This is BELONGING

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TO A CLUB FOR STUDY. 61 % of the teachers would like this, only 31% of the sophomores. The difference of 30% is striking. Perhaps the sophomore girls may eventually come to like study clubs, but the favored attitude is now that of indifference.

I-10. Scientific interest (Table 32B). Perhaps more in line with the preceding topic than with this one is the first item here listed, CLEAR THINKING, which reveals more strong positive reactions from the teachers than from the sophomores. DISCOVER TRUTH and DO RESEARCH WORK show slight but unreliable tendencies in the same direction. On the other hand, the two distinctively significant items, reading ABOUT SCIENCE, and reading ABOUT EVOLUTION, yield other differences. The favored reaction of the teachers to both of these items is that of neutrality, - 45% of teachers mark N for ABOUT SCIENCE, 40% for ABOUT EVOLUTION. Curiously, the sophomores spread out more both toward the strong positive reactions and toward the strong negative reactions, than do the teachers, in the case of the item ABOUT SCIENCE. Not many negative reactions are recorded to reading ABOUT EVOLUTION, for either group, but 13% more of the sophomores like this item. The differences here are not great, but are fairly reliable statistically.

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The teachers may be more interested in the abstract ideal of CLEAR THINKING, but the sophomores are more awake to the actual problems of science, - at least, they are more interested in reading ABOUT SCIENCE and ABOUT EVOLUTION.

I-11. Manual and mechanical interests (Table 523). The teachers are the more interested in the differential items here listed, WORKING WITH YOUR HANDS, TRY EXPERIMENTS, and POPULAR MECHANICS. While two of these items are of rather low reliability, they are all in agreement in direction and likewise in agreement with the items which are less differential, FIND OUT HOW THINGS WORK, and SCIENTIFIC AMERICAN. The sophomores appear to be less interested in manual and mechanical matters than the teachers.

I-12. Music (Table 524). Of the two items suggesting interest in music, only one is clearly differential. 12% more of the teachers like to HEAR SYMPHONIES. Whether this is due to training or to selective factors, it is difficult to say. The matter will be reverted to later.

I-13. Oral self-expression (Table 525). The three differential items, ARGUMENTS, TELLING A STORY, and INTERVIEWS, all indicate that the sophomores have greater interest than the teachers in expressing themselves orally. On the first two items, the differences are

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not highly reliable, but all three are in agreement. To the item MAKING A SPEECH, more teachers than sophomores are neutral, while more sophomores than teachers are neutral to ORGANIZING A PLAY.

I-14. Rural or urban residence (Table 326). As between the groups of sophomores and teachers, there are but slight differences in preference for farm and city. LIVING IN THE CITY receives many more favorable reactions from both groups than LIVING ON A FARM. But 6 and 10% of the two groups respectively give a negative reaction to LIVING IN THE CITY.

2. ATTITUDES TOWARD VARIOUS PEOPLE AND RELATIONSHIPS WITH PEOPLE

(Tables 327-340)

II-1. Managing people, leadership (Table 327). The differential reactions here, while not highly reliable, indicate greater interest on the part of the teachers. 10% more of them like strongly DO EXECUTIVE WORK. Neutrality is the majority verdict (52%) of the sophomores on PEOPLE WHO TEND TO ASSUME LEADERSHIP, while a majority both of sophomores and teachers are negative to PEOPLE WHO ARE EASILY LED. More of the teachers dislike this item. There may be evidence here of greater desire, on the part of the teachers, for social leadership. Reactions to such

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items as PEOPLE WHO TEND TO ASSUME LEADERSHIP and PEOPLE WHO ARE EASILY LED may readily be misunderstood, or the results may be explained to fit a theory. The writer tends to believe that the teachers who dislike both these items are indicating thereby their interest in middle-of-the-road individuals who are neither blind followers nor outstanding leaders.

II-2. Activities in which social contacts are important (Table 328). All the items here listed, except conventions, give some indication of greater interest by the sophomores than by the teachers. Four of the differences are reliable. 12% more of the sophomores like CHECKERS, 12% more like BRIDGE, 16% more like AMUSEMENT PARKS, and 21% more like DANCING.

It is, of course, likely that the sophomores have more time for such recreations than do the teachers; yet it is interesting to note the items which are differential. The Frow questionnaire yields data on the recreational activities actually indulged in, which harmonize with these findings.

II-3. Activities in which social contacts are at a minimum (Table 329). Both groups give more reaction of like than dislike to BEING LEFT TO YOURSELF, but without displaying significant differences. On the other hand, 49% of the sophomores, and only 34% of the teachers, like SOLITAIRE. The difference is reliable.

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The greater interest of the sophomores in SOLITAIRE may go along with their greater interest in such games as BRIDGE and CHECKERS, rather than with any implication that sophomores are more inclined to solitary recreation and amusement than are teachers.

II-4. Conformity to social usage and II-5, susceptibility to social opinion (Tables 330-331). In both of these sets of items, the differences lie in the same general direction, where they are significant. The sophomores care more for reading ABOUT WHAT IS PROPER TO WEAR, dislike more INTRODUCING A PERSON WHOSE NAME YOU HAVE FORGOTTEN, and give more strong negative reactions to the items BE JEERED AT, NOT GET CREDIT FOR WHAT YOU DO, BE GOSSIPED ABOUT, and BE CUT BY AN ACQUAINTANCE. These reactions can mean only one thing - that the sophomores are more interested in conforming to social usage and more susceptible to social opinion than are the teachers.

The allegedly unconventional college students turn out to be more conventional in manners and more tender-minded, so far as the pressure of social opinion goes, than the older and supposedly more conservative teachers.

II-6. Family relationships (general)(Table 332). More of the teachers like reading ABOUT EUGENICS. More of the sophomores give strong positive reactions to MAKE

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DIVORCE HARDER. With less assurance it may be said that more of the teachers give the strongest negative reaction to NEGLECT OF AGED PARENTS BY THEIR CHILDREN.

There is no obvious relationships between these various findings, but they must be interpreted in the light of the few differences revealed in the following group of items.

II-7. Family relationships (personal) (Table 333). The sophomores care more about, i.e., give more strong positive reactions to, LOYALTY TO ONE'S PARENTS, and likewise care more about, i.e., give more strong negative reactions to RUDENESS TO ONE'S FATHER. Likewise the sophomores give more strong negative reactions to HAVE YOUR CHILDREN PUT INTO AN INSTITUTION. On the other hand, more of the teachers like ATTEND YOUR FAMILY REUNION.

Except for the slight apparent greater reaction of the teachers against NEGLECT OF AGED PARENTS BY THEIR CHILDREN, these differences seem to indicate that the sophomores place higher valuation on their personal family relationships than do the teachers. It may be all very well for more of the teachers to like reading ABOUT EUGENICS, and to like ATTEND YOUR FAMILY REUNION (a custom perhaps more attractive as one grows older), but more of the sophomores like strongly MAKE DIVORCE HARDER, resent deeply RUDENESS TO ONE'S FATHER and

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HAVING YOUR CHILDREN PUT INTO AN INSTITUTION, and feel strongly about LOYALTY TO ONE'S PARENTS. Perhaps one difference may be added which barely fails to rate as of high enough reliability to be included with the other differential reactions. Strong negative reactions are given by 10% more sophomores than teachers to DEATH OF A NEAR RELATIVE.

Whether teachers ought to be less concerned about their personal family relationships than college students is not clear. The teachers are older, more are "on their own" in the world, and doubtless have had home ties broken by death or separation in more cases. Such facts may explain the differences found.

II-8. Children (Table 334). Just about a unanimous verdict is given on the item CHILDREN. 95% of the sophomores like CHILDREN, 98% of the teachers. Nobody in these groups dislikes CHILDREN. Yet certain differences appear. No less than 14% more of the sophomores like PLAY WITH CHILDREN, no less than 13% more of the sophomores like reading ABOUT HOW TO TRAIN CHILDREN. These differences are highly reliable. On the other hand, 10% more of the teachers give strong positive reactions to reading ABOUT THE PROPER FEEDING OF CHILDREN. This recalls the difference just mentioned in the reactions to reading ABOUT EUGENICS, which likewise aroused more interest on the part of the teachers.

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It is apparently the personal contact with children in play which makes the greater appeal to the sophomores. Perhaps the teachers, having to work with children, having to train children daily, are more indifferent to these items than the sophomores, without at the same time being genuinely less interested in children. It is rather interesting, however, that a fourth of the teachers react neutrally or negatively to PLAY WITH CHILDREN, and that a fourth of the teachers fail to express an interest in reading about HOW TO TRAIN CHILDREN. In the light of such attitudes, a careful selection for teaching of persons genuinely interested in child welfare is perhaps called for.

II-9. Sentiment (Table 335) There are not enough items grouped here to register differences clearly, but it is perhaps significant that more of the sophomores like to HAVE A BABY HOLD YOUR FINGER and that more of them dislike strongly to SEE CHILDREN LEFT MOTHERLESS. The first of these differences is just fairly reliable, the second slightly below the line of reliability regularly set.

It seems likely that the sophomores are more sentimental than the teachers. This finding is in agreement with those indicated above, under family relationships.

II-10. Home (Table 336). 23% more of the teachers

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give a strong favorable reaction to MAKE IMPROVEMENTS IN YOUR HOME. Perhaps more of the teachers are in a position to MAKE IMPROVEMENTS IN THEIR HOMES than are the sophomores, and the difference may depend upon this situation. On the other hand, 13% more of the sophomores like the LADIES HOME JOURNAL. The LADIES HOME JOURNAL is more within the reach of the students' experience than MAKING IMPROVEMENTS IN THEIR HOMES, and it may be surmised that the sophomores will eventually turn out to be quite as much interested in home life as the teachers, if not more so.

Of course, the LADIES HOME JOURNAL might have been classified equally well under popular reading, where it would add one more to the list of types of reading matter valued more highly by the sophomores than by the teachers.

II-11. Friendship (Table 337). One item here, HELP A FRIEND, suggests an altruistic interest. To this the teachers give more strong positive reactions than the sophomores. For the three other differential items, the reactions suggest greater interest in friendship as such, in having friends and keeping them, on the part of the younger students. More of the sophomores give the strongest positive reaction to BE FRIENDS WITH PEOPLE, and more of them give strong negative reactions to BE LONELY, and to A FALSE FRIEND.

These differences suggest greater interest in

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friendship as such on the part of the sophomores, but possibly greater altruistic interest on the part of the teachers. There is harmony between this conclusion and the statements made above that the sophomores are more sentimental and more interested in their personal family relationships.

II-12. Persons liked or disliked because of their physical traits (Table 538). Only one item of the four here listed is decidedly differential. 22% more of the sophomores dislike CROSS EYED PEOPLE. 10% more of the sophomores dislike FAT MEN, but this difference is not quite significant enough statistically to be relied upon.

The opinion may be ventured that the sophomores have not yet learned tolerance for physical defect or disagreeable features of physique, as have teachers who must deal with such cases daily.

II-13. Persons liked or disliked because of their emotional or behavior traits (Table 539). Three items here are differential. EMOTIONAL PEOPLE and TALKATIVE PEOPLE are liked by more sophomores, disliked by more teachers. A POOR LOSER arouses a strong negative reaction in 26% more of the sophomores than of the teachers. All of these differences are of high reliability.

It may be noted that the sophomores, while less tolerant of physical defect, are more tolerant of

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emotionality and talkativeness, traits which make for disturbance in the classroom. Possibly also the greater tolerance of the sophomores for EMOTIONAL PEOPLE and TALKATIVE PEOPLE reflects greater inclination toward these traits.

One might perhaps expect the difference on the item, A POOR LOSER. It is more than likely that sportsmanship is given higher value by the college student than by the school teacher. The student more often faces problems which directly involve this trait.

II-14. Persons liked or disliked because of their intellectual traits (Table 340). On the three items showing significant differences, more of the teachers report that they like the kinds of people mentioned. This applies to PROGRESSIVE PEOPLE and likewise to CONSERVATIVE PEOPLE. The difference between the sophomores and the teachers is highly marked for each of these items, and in less degree for PEOPLE MORE INTELLIGENT THAN YOU. In all of these cases, more of the students are indifferent.

The facts that the sophomores are more indifferent both toward PROGRESSIVE PEOPLE and toward CONSERVATIVE PEOPLE, and that the teachers are more inclined to react favorably toward both of these opposing types, are most interesting, but correspondingly difficult to interpret. It is not clear why more of the teachers like both PROGRESSIVE and CONSERVATIVE PEOPLE. The sophomores

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seem to tend more toward a liking for the golden mean. Both sophomores and teachers like PROGRESSIVE PEOPLE more than they like CONSERVATIVE PEOPLE, it should be noted.

It is also interesting that 80% of the teachers like PEOPLE MORE INTELLIGENT THAN YOU, in contrast to 68% of the sophomores. An inferiority complex is not necessarily suggested here, although it is possible. On the whole, perhaps it is a desirable attitude to like PEOPLE MORE INTELLIGENT THAN OURSELF, and indicates a proper humility or respect.

3. ATTITUDES TOWARD VARIOUS SOCIAL, MORAL, AND RELIGIOUS PROBLEMS

(Tables 341-353)

III-1. Religion (Table 341). Many of the items in this long list are differential. In the first place, the sophomores care more than the teachers for DISCUSS RELIGION and reading ABOUT DIFFERENT RELIGIONS, i.e., they appear to take a greater intellectual interest in religion. The relatively vague phrases, MORE HARMONY WITH THE DIVINE PURPOSE and COMMUNE WITH THE GREAT SPIRIT, arouse positive reactions from more of the teachers than the sophomores, however, The sophomores are more inclined to give a strong negative reaction to the item FEEL THAT GOD HAS FORGOTTEN YOU, but the teachers in more cases

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react positively to MORE USE OF PRAYER. It is interesting that there are few doubters in either group of the statements A CONSCIOUS PURPOSE, GREATER THAN THE PURPOSE OF MAN, WORKS FOR RIGHTEOUSNESS IN THE UNIVERSE, and BY MEANS OF PRAYER ONE MAY, IN TIME OF NEED, GET HELP FROM SPIRITUAL POWERS OUTSIDE HIMSELF, and that these items are not differential. Likewise, THE BIBLE is liked by two-thirds of each group, and does not yield differences.

The next two items are related, and receive similar responses. They are, APPLICATION OF CHRISTIAN IDEALS TO MODERN INDUSTRY and CHRISTIANIZATION OF THE WORLD. In both cases, the teachers show greater interest than the sophomores.

It may perhaps be inferred from the preceding differences that the sophomores are in the main as much interested in religion as the teachers, but not so much interested in conventional Christianity. This appears strikingly in the reactions to the statement, IT IS IRRELEVANT OR SACRILEGIOUS TO PUT JESUS CHRIST AND HIS SAME CLASS WITH BUDDHA, CONFUCIUS, or SOCRATES. 45% of the sophomores accept this statement as true, compared with 83% of the teachers. 34% of the sophomores label the statement as false, in contrast to 59% of the teachers. One or two members of each group failed to

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mark the statement. Clearly, there is evidence here that the sophomores are less conventional in their views regarding Christianity than are the teachers.

Finally, it must be noted that the two items RELIGIOUS PEOPLE and IRRELIGIOUS PEOPLE are not differential. RELIGIOUS PEOPLE are liked by about 40% of each group, disliked by only about 10%. IRRELIGIOUS PEOPLE are liked by only 5% of the sophomores and by none of the teachers; and interesting to note, are disliked by 41% of the sophomores and 48% of the teachers. There is slight evidence in these final reactions to show a difference between the sophomores and the teachers in basic interest in religion.

III-2. Ethical values (Table 342). The interesting statement COURAGE AND HONOR ARE HIGHER VALUES THAN JOY AND HAPPINESS is accepted as true by 95% of the teachers and only 82% of the sophomores. Here is a matter of valuation upon which people may disagree. It is evident that the sophomores do show some disagreement among themselves, the teachers show almost none. On the other hand, EVEN-HANDED JUSTICE is not differential.

If the conventional reaction to the differential statement quoted here is to mark it true, the teachers rank as more conventional, while the sophomores include more doubters. It has been seen that this is the case

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with reference to religion.

III-3. General interest in social progress (Table 343). The teachers stand out here, for more of them like STIR ENTHUSIASM FOR A GOOD CAUSE and PROTEST AGAINST SOCIAL INJUSTICE. Teaching is generally regarded as a profession of social service, and the teachers value this spirit more highly than do the sophomores. It may be recalled that the teachers likewise show stronger interest in HELP A FRIEND. General altruism, so far as expressed in the reactions to these verbal stimuli, seems more marked for the teachers.

III-4. Specific social reforms or means to reform (Table 344). Two items here receive stronger positive reactions from sophomores, one item stronger positive reactions from the teachers. More of the sophomores like CHRISTMAS CHEER FOR THE POOR and accept the statement KINDHEARTEDNESS IS WHAT ONE NEEDS MOST IN ORDER TO DO GOOD IN THE WORLD. More of the teachers give strong positive reactions to MILK AND ICE FUNDS FOR BABIES.

The reactions here seem in line with the previous findings, that the sophomores are more sentimental than the teachers, and the teachers more interested in social service. Although these items appear in the detailed discussion of Hart's analysis of his test, it may be

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pointed out here that Hart's alleged "leaders of social progress" were less sentimental, i.e., reacted less positively, to these three items, than his unselected control group. The sophomores, on the whole, approach the control group more nearly herein than do the teachers.

It is interesting to see that there is a majority vote in favor of the truth of the statement quoted above, by both groups. One inclined to argue the point might raise the question of intelligence as a necessity if one is to do good in the world, but over 60% of both groups register belief in the statement.

III-5. Prohibitory legislation (Table 345). The two items in this section are both differential, in opposite directions. A stronger interest in REPRESS GAMBLING is shown by the sophomores, whereas more interest in PROHIBIT SMOKING TOBACCO is characteristic of the teachers. The largest difference is in the negative reactions to PROHIBIT SMOKING TOBACCO. There are 54% of negative reactions for the sophomores, only 30% for the teachers.

Of course, the total positive reactions to these two items are very different, for both groups. 77% of sophomores and 85% of teachers like, whether strongly or not, REPRESS GAMBLING. In contrast, only 7% of sophomores and 18% of teachers like PROHIBIT SMOKING

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TOBACCO. The significant difference for the item REPRESS GAMBLING appears only in the strong positive reactions, the sophomores attaching greater weight than the teachers to this supposed evil.

The question may be raised as to which group shows better sense of values - the group which rates higher in stress upon REPRESS GAMBLING, or the group which rates higher in liking for PROHIBIT SMOKING TOBACCO.

III-6. Freedom of speech and opinion (Table 346). Three items are here differential, none of them to a degree sufficiently marked for thorough reliability. The teachers whose reactions were obtained are more interested in freedom of speech and opinion than are the sophomores. More of the teachers like FREER DISCUSSION OF SOCIAL AND POLITICAL QUESTIONS, and more of them deny the truth of the statement SOCIALISTS ELECTED TO LEGISLATURES SHOULD NOT BE ALLOWED TO SERVE. Likewise, more of the teachers give strong negative reactions (F*, F**) to the statement A TEACHER OR PROFESSOR WHO IS NOT CONTENTED WITH THE PRESENT SOCIAL SYSTEM SHOULD BE DISCHARGED.

The majority vote in each group, sophomores or teachers, is in the general direction indicated for the teachers, i.e., a majority of each group like FREER DISCUSSION OF SOCIAL AND POLITICAL QUESTIONS, and marks

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each of the two statements quoted as false. The teachers rate definitely above the sophomores, however, in interest in freedom of speech and opinion.

III-7. Feminine propriety (Table 347). SMOKING BY WOMEN is liked by 12% of sophomores and only 2% of teachers (two cases out of seventy-five). SMOKING BY WOMEN is disliked by 48% of sophomores and 73% of teachers. These differences are reliable. It is interesting to note a further difference, that 39% of the sophomores are merely neutral in their reactions, whereas only 24% of the teachers give a neutral reaction.

Assuming honesty of purpose in marking the questionnaire, one may be surprised that so small a percentage of the sophomores like this item. The current conception of the co-ed seems to be of a jazzing, unconventional cigarette-smoker. The difference between the sophomores and the teachers is probably to be expected.

The item SEE WOMEN GO INTO PROFESSIONS LIKE MEDICINE AND THE LAW is not clearly differential. A majority of both groups like this item.

III-8. Problems of capital and labor (Table 348). The first three items, all of which suggest types of reading matter on labor problems, bring apparently inconsistent differences to light. More of the sophomores like reading ABOUT SOCIALISM, but more of them dislike

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reading ABOUT LABOR PROBLEMS and LABOR AND SOCIALIST DAILIES. To three of the ten remaining items there are differential reactions. More of the teachers like UNIONIZE INDUSTRY and more of them dislike SOVIET CONTROL IN INDUSTRY. On the other hand, more of the sophomores give a strong negative reaction to the statement LARGE FORTUNES HAVE BEEN MADE ONLY BY HONESTY, BRAINS, AND HARD WORK.

An inspection of the detailed reactions to the items in this list, including the cases where differences are too small to be reliable, leads to an impression of apathy on the part of both sophomores and teachers, with regard to problems of capital and labor. Neutral reactions are extremely common and for the first eight items in the list are in each case the modal reactions. For the first eight items the sophomores give the following percentages of neutral reactions: 47, 42, 42, 48, 71, 75, 62, 75. The first four items are types of reading matter relating to problems of capital and labor. The fifth, sixth, seventh, and eighth items indicated are COLLECTIVE BARGAINING, UNIONIZE INDUSTRY, WORKING CLASS SOLIDARITY, and DIRECT REPRESENTATION IN CONGRESS BY INDUSTRIES. Even the ninth item, SOVIET CONTROL IN INDUSTRY, gets a neutral reaction from 42% of sophomores and negative reactions from only 56%. The statement NEWS PUBLISHED BY THE AVERAGE PAPER IS

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BIASED IN FAVOR OF THE EMPLOYERS AND BIG BUSINESS MEN gets almost a 50-50 vote pro and con from both sophomores and teachers. On the other hand, only 4% of sophomores and 9% of teachers appear to regard the statement as true, LARGE FORTUNES HAVE ONLY BEEN MADE BY HONESTY, BRAINS, AND HARD WORK. The statement ALL STRIKES SHOULD BE PROHIBITED is believed by approximately one-third of each group, rejected by two-thirds. Finally, the item SOLDIERS TO STOP STRIKES again gets an apathetic response, with neutral reactions from 51% of the sophomores and 48% of the teachers.

The teachers are more apathetic, on the whole, than the sophomores. The neutral reactions for the first eight items, for the teachers, are as follows: 68, 53, 59, 50, 66, 61, 66, and 59.

Indifference toward matters which loom so large in American life today, is hardly a virtue. We doubt whether teachers, for all their lack of personal contact with the problems indicated, should be excused from having opinions regarding such vital issues. On the other hand, we wonder whether college sophomores, even college sophomore girls, should not be more concerned about such significant problems.

III-9. Political interest (Table 349). The single item which appears here, MORE INTEREST IN LOCAL POLITICS, is liked by 25% more teachers than sophomores. The

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teachers are of voting age, the sophomores not; yet one may well ask whether more than 49% of sophomores should not react positively to this item.

III-10. International relations (Table 350). Six out of ten items here are differential. The sophomores show less concern about good international relations, in the abstract, than do the teachers. On the other hand, the teachers react in more cases in a way to show a narrow, rather Chauvinistic patriotism.

The detailed differences may be stated as follows. More of the teachers give strong negative reactions to HATRED BETWEEN NATIONS, while more of the sophomores are neutral or positive in reaction to this item. *

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* It must be noted that HATRED BETWEEN NATIONS and INTERNATIONAL JEALOUSY are listed by Hornell Hart under the caption of proposed reforms. The ambiguity is obvious. Presumably the persons who marked HATRED BETWEEN NATIONS and INTERNATIONAL JEALOUSY as liked, did so under the misapprehension that they were thus indicating their desire for reform of such relations.

More of the teachers like WORLD DISARMAMENT and a FEDERATION OF THE WORLD. The differences here are 21 and 23% respectively. The favorable reactions of the teachers are well over a majority, 63% in each case; while the favorable reactions of the sophomores are 42% and 40%.

37% of the teachers and 15% of the sophomores

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accept the statement NO COUNTRY EVER HAD AS GOOD LAWS, OR AS GOOD A GOVERNMENT, OR A CULTURE AS GOOD IN ANY WAY AS WE PEOPLE OF THE UNITED STATES HAVE. 60% of the teachers and 84% of the sophomores marked this statement as false. 14% of the teachers and 39% of the sophomores marked this statement as false, with one or two crosses - i.e., feel strongly about the falsity of the statement.

14% of the teachers and 8% of the sophomores accept the statement THE JAPANESE ARE AN INFERIOR BUT DANGEROUS PEOPLE, WHO NEED TO BE TAUGHT THAT WE ARE MASTERS OF THE PACIFIC OCEAN. While this difference is not great enough to be reliable, a clear difference appears in the strong negative reactions. 34% of the sophomores, as against 19% of the teachers give strong negative reactions to this statement.

40% of the sophomores and 26% of the teachers accept the statement THE UNITED STATES HAS AT TIMES BEEN TYRANNICAL TOWARD WEAKER NATIONS. 59% of the sophomores and 44% of the teachers deny this statement, - i.e., mark it false.

"OUR COUNTRY, RIGHT OR WRONG!" IS A NOBLE SENTIMENT does not secure differential reactions.

The three statements quoted above, where the reactions are differential, point toward a more narrow and self-satisfied patriotism, on the part of the

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teachers. The readers' own reactions to these items will, of course, determine whether or not he views with alarm the shift in attitudes on the part of the younger generation of students. It is interesting to note once more that the teachers, in contrast to their narrower conception of patriotism, displayed in their reactions to the statements quoted, are more interested than the sophomores in WORLD DISARMAMENT and A FEDERATION OF THE WORLD. *

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* The writer is inclined to think that world disarmament and a federation of the world are difficult to promote save as one avoids smugness concerning his own country.

III-11. Punishment of crime (Table 351). Well over one-third of each group reacts favorably to ABOLITION OF CAPITAL PUNISHMENT, and the sophomores give 15% more strong favorable reactions than do the teachers. The verdict of both groups is against the statement CRIME CAN BEST BE REDUCED BY PUNISHING EVERY CRIMINAL SEVERELY, though the reactions are slightly more negative for the sophomores than for the teachers. Only the reactions to the first item, however, show statistically reliable differences.

Again the opinions of the reader will color his reactions to the findings. Is it creditable or discreditable to the teachers that they are more favorable

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than the sophomores to stringent punishment of crime?

III-12. Negroes (Table 352). Negative reactions to the two items here given are negligible, for both groups. The only difference which appears, which has any degree of statistical reliability, is found in 10% more strong positive reactions by the sophomores to SOCIAL JUSTICE FOR NEGROES. This is perhaps overbalanced by the fact that slightly larger percentages of the teachers than of the sophomores react positively to each item, strength of reactions not being considered. It should be noted that the majority of each group react positively to FAIR TREATMENT FOR COLORED PEOPLE and SOCIAL JUSTICE FOR NEGROES, this rising to as high as 74% for the first item, for the teachers.

In summary, a majority of both sophomores and teachers fail to register prejudice against negroes, and significant differences between sophomores and teachers are lacking here.

III-13. Schools and teaching (Table 353). The differences which might be expected appear for these items. More of the teachers like strongly ELECT GOOD SCHOOL BOARDS and BETTER PAY FOR SCHOOL TEACHERS, and more of them like TEACHING. Neutral and negative reactions are negligible for the item ELECT GOOD SCHOOL BOARDS, but 25% of the sophomores are neutral to BETTER PAY FOR SCHOOL TEACHERS. It is interesting to note that 67% of the sophomores like TEACHING, 26% are neutral and 8% dislike the item, whereas 90% of the teachers like, 8% are neutral, and 2% dislike

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TEACHING. One cannot help wondering whether the 10% of teachers who admit that they do not like TEACHING belong in the profession.

4. ATTITUDES TOWARD VARIOUS OCCUPATIONS

(Table 554)

More of the sophomores like the following occupations: ACTRESS, DANCING TEACHER, GOVERNESS, NEWSPAPER REPORTER, PRIVATE SECRETARY (SOCIAL), and SOCIAL WORKER. More of the teachers dislike the following: ACTRESS, DANCING TEACHER, DETECTIVE, GOVERNESS, LIBRARIAN, PRIVATE SECRETARY (SOCIAL), and SOCIAL WORKER.

More of the sophomores dislike: COOK, DRAFTSMAN, MILLINER, PRIVATE SECRETARY (BUSINESS), RETAIL SALES CLERK, and WINDOW TRIMMER. More of the teachers like: COOK, DRAFTSMAN, and TEACHER.

A check of these occupations with the classification made by twenty-four women teachers reveals certain clear tendencies. The occupations to which the sophomores are more favorable and the teachers more unfavorable are more apt to have mental activity dominant, to have major contacts with people or with words or books, and to be considered romantic or on the border-line between prosaic and romantic. The occupations to which the teachers are more favorable and the sophomores more unfavorable are

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more apt to have motor activity dominant, to have major contacts with things, and to be considered prosaic.

5. GENERAL TENDENCIES

Of the ten proposed measures of general tendency in attitudes, only four reveal statistically significant differences (Table 511). The sophomores have a wider range of occupational interests, a wider range of recreational interests, and more interest in social contacts. The teachers rate higher on interest in international relations.

The mean number of occupations marked "like" by the sophomores is 11.41. The mean number for the teachers is 10.15. It is possible that one's participation in an actual vocation may tend to reduce the range of occupational interest indicated in the reactions to the occupational interests questionnaire. This may account to some degree, although probably not completely, for the narrower range of vocational interests on the part of the teachers.

The mean number of recreational interests for the sophomores is 10.36. That for the teachers is 8.40. This evidence that the sophomores have wider recreational interests than the teachers is supported by the results from the free questionnaire on leisure time activities.

The means for interest in social contacts are 11.54

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for the sophomores and 9.27 for the teachers. The detailed analysis of the interest questionnaire confirms the difference found here, which indicated that the sophomores are more interested in activities where social contacts are essential and less interested in activities where social contacts are less essential.

The means for interest in international relations are 11.13 for the sophomores and 11.79 for the teachers. This rather small, though fairly reliable difference does not depend upon interest in any particular type of international relations, but merely indicates that the teachers tend to give more strong reactions than the sophomores to the items suggesting international relations.

6. SUMMARY

The sophomores are more interested than the teachers in the following occupations: (a) outdoor recreation, light reading, and entertainment; (b) items suggesting conformity to social usage and susceptibility, sentiment, family, friends, and children; (c) a relatively broad conception of patriotism; (d) occupations which have their major contacts with people or with words or books, which have mental activity dominant, and which are considered romantic or on the border-line between prosaic and romantic.

The teachers are more interested in: (a) success,

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manual work and mechanical matters, high grade reading, and intellectual matters in genera; (b) managing people; (c) conventional religious views, general social progress, free speech and opinion, good international relations (conceived in abstract terms), a narrow conception of patriotism, severe punishment of crime; (d) occupations which have their major contacts with things, in which the motor activity is dominant, and which are considered prosaic.

The sophomores have a wider range of occupational interests, a wider range of recreational interests, and more interest in social contacts. The teachers rate higher on interest in international relations.

3. SOCIALIZATION

1. GENERAL

Socialization is measured in general terms by score on the Hornell Hart Test of Social Attitudes and Interests, derived by the procedure outlined in Chapter II. The mean score for the sophomores is -12.28 (Table 311). The mean score for the teachers is -4.39. This difference of eight points is statistically highly reliable. It indicates that when all measurable factors are taken into account, the teachers rate more nearly like the Hart "leaders of social progress" than do the sophomores. When it is considered that the standard

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deviation for each group is about thirteen points, the difference of approximately eight points looms significant.

2. DETAILED ANALYSIS

The teachers surpass the sophomores, i.e., give reactions more nearly approximating those of the Hart "leaders of social progress," for a majority of the seventeen sets of items in terms of which Hart analyzes the reactions indicating socialization (Table 355). In certain respects, however, the teachers rank below the sophomores, i.e., more nearly resemble Hart's control group of unselected men.

The teachers surpass the sophomores in indifference toward light reading, intellectuality and craving for truth, unconventionality, insensitiveness to social opinion, lack of sentiment, general altruism, interest in economic justice, and one set of items suggesting international and interracial mindedness.

The sophomores surpass the teachers in indifference toward business success, intellectual interest in religion, indifference to religious creeds, and one set of items suggesting international mindedness. The apparent discrepancy between reactions to the two sets of items suggesting international mindedness can only be explained in terms of the reactions to the individual items. For

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these, the reader is referred to the earlier discussion of reactions to items suggesting international relations.

H. SUMMARY

1. General. The sophomores are fourteen years younger than the teachers, on the average; they are less mature, still in school, not professionally minded, and in many more cases than for the teachers may be expected to marry within a few years.

2. Social and economic background. The sophomores are probably more extroverted, the teachers more introverted, in terms of the differences in their social and economic backgrounds. The sophomores come from homes in better financial circumstances, with smaller families, and in which the mother has had more schooling. There is evidence that their families were better adapted socially, and that their parents were better adjusted to each other. The teachers report more maternal influence in their lives, and are less satisfied with their early environment.

3. Intelligence. Evidence is unsatisfactory regarding possible differences in intelligence.

4. Commonality of response. The association test yields no differences between the sophomores and the teachers.

5. Leisure time activities. The sophomores indulge in far more leisure time activities, and have a wider

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range of recreational interests. They enjoy more social recreation, more light entertainment, and more physical exercise, and read more non-professional books. The teachers engage in more uplift activities, especially church attendance.

6. Attitudes and interests. The sophomores are more interested in outdoor recreation, light reading and entertainment, and social relations; they care more about social usage and opinion, are more sentimental, and are more interested in family, friends and children; they are less intellectual and less concerned about social progress, but have a less narrow patriotism; they have broader occupational, recreational, and social interests.

The teachers are more concerned about success, are more interested in mechanical matters and manual work, have higher tastes in reading and are generally more intellectual; they care more for managing people but less for social contacts; they are more conventional in religious views; they care more for general social progress, for free speech and opinion, for good international relations (conceived in abstract terms), for a narrow conception of patriotism, and for severe punishment of crime; they are apathetic toward problems of capital and labor, although no more so than are the sophomores.

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7. Socialization. The teachers are in general more highly socialized, but not with regard to attitudes toward business success, religion, and certain aspects of international mindedness.

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CHAPTER IV. COMPARISON OF SOPHOMORES WITH STUDENT-TEACHERS

A. GENERAL

The major differences between the sophomores and student-teachers have been indicated in the descriptions of these groups in Chapter II.

The student-teachers had survived to the end of the regular college course, had taken a Bachelor's degree, and had been teaching half-time for over a semester, at the time the tests were given. Educationally, they had had three years more schooling than the sophomores. Some of the differences found are doubtless attributable to the additional training received in these three years.

Other differences may be due to the greater maturity of the student-teachers. The mean age of the sophomores is 19.78, while that of the student-teachers is 23.34 (Table 357). The student-teachers are thus three and a half years older, on the average, than the sophomores. Inspection of the distribution tables, which are not reproduced in this report, shows that 80 out of the 87 sophomores are aged 18, 19, and 20, while 26 out of the 31 student-teachers are aged 21, 22, and 23. Only four of these are aged 21, and none is younger than 21. The 5 student-teachers above 23 are aged respectively 24,

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25, 26, 27, and 29. One student-teacher failed to report her age. Age may in part account for differences, although this in itself is probably not an adequate explanation for many differences.

Probably the most significant difference between the sophomores and the student-teachers is that of selection. The student-teachers have not only determined to become teachers, but have actually embarked upon their professional career. They have presumably begun to acquire whatever ways of thinking and behaving characterize the teaching profession. They know what their work is to be, and are at the same time completing their preparation and beginning the actual practice of their work. The sophomores, on the other hand, are for the most part not vocationally slanted as yet. Many of them will doubtless leave college without graduating, and many both of these and of the girls who graduate will marry shortly afterward. In the main, the continuance of a girl through college and into the student-teaching work, tends to suggest somewhat less likelihood of marriage than obtains for the group of sophomores as a whole. This point should not be over-stressed, for the student-teachers are still of entirely eligible age for marriage.

It is difficult to determine what factors have operated in the selection of the student-teachers from the college sophomore group of which they were once

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members. The most that the present chapter can do is to present actual differences which are found between the sophomores and the student-teachers. Chapter V will deal with a comparison of the student-teachers and teachers. A discussion in a later chapter will deal with the extent to which the student-teachers represent attitudes intermediate between those of the sophomores and those of the teachers-in-service.

B. SOCIAL AND ECONOMIC BACKGROUND

1. ECONOMIC AND EDUCATIONAL

Only one difference of statistical significance appears in the education of the parents of the sophomores and student-teachers. 10% of the fathers of the sophomores finished less than the grades, while all of the fathers of the student-teachers finished at least the grades (Table 356). The difference of 10% is reliable, but the actual numbers of cases involved are small. No reliable differences appear in the education of the mothers.

The student-teachers come from families with an average of 4.52 children; while the sophomores come from families with an average of 3.25 children (Table 357). The difference is greater than that between the sophomores and teachers, and is highly

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reliable. It is probable that the difference indicates that the student-teachers come from families in poorer financial circumstances, on the average, than those of the sophomores.

At the same time, the ratings by the student-teachers and the sophomores for the financial circumstances of their families when they were children did not reveal significant differences.

It is not clear whether the student-teachers are selected to any extent by virtue of poorer financial circumstances in their families. The only evidence on this point is that regarding the size of family, and although this is generally correlated negatively with family income, such may perhaps not be the case here. The only bit of evidence regarding differences in educational background of parents is too slight to be more than suggestive.

2. SOCIAL BACKGROUND

No significant difference appears in the answers to the question regarding the extent to which family acquaintanceship was limited to people of the same religious belief.

On the other hand, 30% more of the student-teachers report that their family more often did the entertaining,

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while 22% more of the sophomores report that their families entertained and were entertained equally. These differences are highly reliable.

Better social adaptation is clearly indicated for the families of the sophomores, if Freyd's interpretation of the significance of this question may be accepted.

3. FAMILY RELATIONSHIPS

12% more of the sophomores were oldest children, while 11% more of the student-teachers were in between oldest and youngest. There is only a negligible difference in percentages of only children. The sophomores more often represent the oldest children in the family, while the student-teachers more often represent the intermediate child.

No significant differences appear with regard to the treatment the subject received as a child in comparison with other brothers and sisters.

14% more of the sophomores state that they liked the father better, in childhood, while 19% more of the student-teachers state they liked both father and mother equally. Similar differences appear for the judgments as to the parent who has most influenced the subject. 11% more of the sophomores state that this

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was the father, while 10% more of the student-teachers state that the influence of both parents was equal. No difference of good statistical reliability appears for the question regarding which parent was "taken after," but 10% more of the student-teachers state that they took after the mother. The reliability of this difference is 846 chances in 1000. No significant difference appears with regard to the parent dominant in the family, although it may be noted that 7% more of the sophomores report the father as dominant, and 6% more of the student-teachers report the mother as dominant.

The evidence points clearly to greater paternal influence in the lives of the sophomores and greater maternal influences in the lives of the student-teachers.

4. SATISFACTION WITH EARLY ENVIRONMENT

14% more of the sophomores report that they had a desire to run away from home. The actual percentages are 27% for the sophomores and 13% for the student-teachers. Only 5% of the sophomores and 0% of the student-teachers report that they actually did run away.

None of the questions regarding dislike for change

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in home and other environmental conditions shows a significant difference. The closest approach to this is a 10% difference indicating greater desire for more cheerful conditions on the part of the student-teachers. The reliability of this difference is 846 chances in 1000.

The difference with regard to a desire to run away from home cannot be considered especially significant of dissatisfaction with home environment, in the light of the questions directed especially toward this problem. The evidence from the answers to these questions is slight.

5. SUMMARY

The major differences may be summarized as follows: The student-teachers come from families larger by one child or more, on the average, and where the educational status of the father tended to be somewhat lower. The home life of the student-teachers, in their childhood, was possibly less cheerful, and showed less social adaptation. The sophomores appear to have been more influenced by their fathers and the student-teachers by their mothers, and more of the sophomores show a preference for their fathers.

To some degree, these differences correspond to

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the differences found by Freyd between the mechanically and the socially inclined. The sophomores tend to have personal histories more like those of the socially inclined, while the student-teachers have personal histories more like those of the mechanically inclined. This comparison does not hold in every respect, however. The differences between the sophomores and teachers-in-service check more closely with the differences between Freyd's groups of socially and mechanically inclined individuals than do the differences between the sophomores and the student-teachers.

C. INTELLIGENCE

The data are unreliable regarding the intelligence of the sophomores, as has been noted in Chapter III. The obtained difference in mean scores of Army Alpha slightly favors the sophomores above the student-teachers (Table 357). This is manifestly absurd since the student-teachers have been selected through three more years of college than the sophomores. Graduation from college is, in fact, a prerequisite for student-teaching. Much evidence points to the superiority of graduate students over undergraduate students, on intelligence tests (63). It is not known how great the real superiority of the student-teachers over the sophomores in intelligence may be.

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D. COMMONALITY OF RESPONSE

The difference in mean scores for commonality of response is slight, as between the sophomores and student-teachers (Table 357). The mean score for the sophomores is 31.78, while that for the student-teachers is 35.24. The reliability of the difference found is only 782 chances in 1000.

The obtained difference is not striking enough to warrant a conclusion from it. It suggests the possibility of greater extroversion on the part of the student-teachers, but such a statement would need to be checked with other evidence before being accepted. The evidence from the personal history questions, which has been presented above, does not harmonize with the statement just made.

E. LEISURE TIME ACTIVITIES

1. TROW TOTAL ACTIVITIES SCORE

A highly significant difference is found for the total number of leisure time activities engaged in. The sophomores far surpass the student-teachers (Table 357). The mean number of activities for the sophomores is 159.6, while that for the student-teachers is 92.0. The average number of activities for the

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sophomores is almost exactly the number of days in the twenty-week period reported upon. For the student-teachers, the average score is two-thirds of the number of days.

2. TROW PARTIAL SCORES

a. Trow Partial 1. Uplift Activities

Practically the same mean number of participations is found for the two groups for these items, 23 for the sophomores and 24 for the student-teachers (Table 357). More sophomores attended no symphony concerts, heard no lectures other than classroom lectures, and visited no art galleries (Table 358). Probably more student-teachers attended church regularly, although the difference is not quite reliable enough to meet the statistical criterion.

b. Trow Partial 2. Social Activities

The sophomores indulged in more social activities (Table 357). They average two such activities per week, 40 for the 20 week period as against 25 for the student-teachers. More of the student-teachers attended no social meetings, clubs, etc. (Table 358).

c. Trow Partial 3. Light Entertainment

The sophomores enjoyed 12 more shows or

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entertainments of the various kinds listed here, than did the student-teachers, within the 20 weeks period (Table 357). The means are 35 and 23. More of the sophomores, however, attended no plays, and more of the student-teachers saw no athletic contests (Table 358).

d. Trow Partial 4. Physical Exercise

The sophomores indulged in more physical exercise, on the average, than the student-teachers (Table 357). The means are 34 and 12, but the mean of 34 participations by the sophomores cannot be trusted, since required gymnasium exercises may have been included by some and omitted by others. Unquestionably, however, the student-teachers get relatively little exercise. The average of 12 periods of physical exercise, outdoor games, walks in the country, etc., for the student-teachers, is only a little over one such period every two weeks. 44% of the student-teachers, a far larger percentage than of the sophomores, enjoyed no gymnasium or outdoor games or periods of exercise, with the possible exception of walks in the country (Table 358). 43% of the sophomores took no walks in the country.

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e. Trow Partial 5. Non-professional Books Read

The sophomores report 14 non-professional books read during the semester, and the student-teachers report 9 (Table 357). In both cases, there is some doubt as to the validity of these reports, since books required in English and History courses, etc., may possibly have been included by some. Where the question was raised by the subjects, they were instructed not to include such. It cannot be said with assurance that the sophomores are actually more interested in general reading or do more, apart from class requirements, than the student-teachers.

F. ATTITUDES AND INTERESTS

1. ATTITUDES TOWARD VARIOUS PERSONAL ACTIVITIES AND SATISFACTIONS (Tables 359-372)

I-1 and I-2. Success in work and Financial success (Tables 359-360). DO A GOOD PIECE OF WORK receives a strong positive reaction from more of the student-teachers than of the sophomores. This difference is fairly reliable. Two of the items under financial success, ABOUT BANKING, and HOW TO BUY AND SELL STOCKS AND BONDS, are disliked by more sophomores than student-

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teachers; but the stimulus WIN OUT IN THE FINANCIAL WORLD shows a difference in the opposite direction. More of the sophomores react positively, more of the student-teachers neutrally or negatively to this item.

For these groups of items, then, the differences are not clear-cut. The sophomores seem to be less interested in success in work, but more interested in financial success in a general way; yet they react more negatively toward reading matter which is logically connected with financial success. Whether we assume that the student-teachers are more highly selected or that they have come to change their attitudes herein since they were sophomores, we shall probably not regret that the student-teachers are more interested in DO A GOOD PIECE OF WORK and less interested in WIN OUT IN THE FINANCIAL WORLD. Strong interest in financial success is probably relatively undesirable in a teacher.

I-3. Uncomfortable or unpleasant personal experiences (Table 361). Only one of these reveals a significant difference. This is HEAR A CARELESS PLAYER POUND A PIANO, which is disliked by 12% more of the sophomores. There are slight and unreliable differences to indicate that more of the sophomores dislike HAVE BURNED FOOD, that more of them dislike strongly BE BORED, and that more of the student-teachers

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dislike strongly UNEXPECTEDLY TOUCH A DEAD BODY. There is no marked trend here, but in general, it appears that the sophomores are more susceptible to the unpleasant personal experiences cited.

I-4. Sport and outdoor recreation (Table 362). The significant differences are not numerous, but the four which do appear are in the same direction. They point to greater interest by the sophomores in the items listed. Three of the four reliable differences are for reading matter about sports. The other is for DRIVING AN AUTOMOBILE.

I-5. High grade reading and other leisure time activities (Table 363). Ten out of the eleven items under this heading show significant differences in the same direction, and even the difference for the eleventh item checks in direction with the others. Unquestionably, the student-teachers are more interested than the sophomores in high grade reading matter. The differences rise to 32% for PHILOSOPHY, 29% for ATLANTIC MONTHLY, 26% for NEW REPUBLIC, and 25% for THE CLASSICS, all of these differences showing a reliability of 999 chances in 1000.

Either selection of the embryo school teachers or the additional training since they were sophomores has raised their standard of literary appreciation perceptibly. Comment was made in an earlier chapter on

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the low standards shown in the reactions of the sophomores.

I-6. Popular reading and other leisure time activities (Table 364). The items listed under this heading are nearly all differential, in the direction of greater interest by the sophomores. This holds in reading matter for SHORT STORY MAGAZINES, THE RED BOOK MAGAZINE, and AMERICAN MAGAZINE; in amusements for MUSICAL COMEDY, VAUDEVILLE, and MARY PICKFORD. COWBOY MOVIES are disliked by more of the sophomores, however.

These findings support those for the preceding group, in pointing to higher standards for the student-teachers than for the sophomores. No evidence has thus far been presented to show whether these are due to selection or to training, though the guess may perhaps be hazarded that selection plays the larger role.

I-7. Low grade reading and other leisure time activities (Table 365). Two of the three items appearing here support the statements just made regarding standards. SMART SET and VULGAR SHOWS receive more negative and strong negative reactions, respectively, from the student-teachers. The differences are reliable.

I-8. Humor (Table 366). The differences found are

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all slight. Although they all point to greater interest by the sophomores, only one of the differences is statistically of fair reliability. This is for WORKS OF MARK TWAIN.

If the half dozen items here listed really indicate anything about sense of humor, it is probably unfortunate that there should be even a slight selection operating to make student-teachers less interested in humor than college students. Sense of humor commonly finds a place in lists of traits characterizing successful teachers.

I-9. General curiosity (Table 367). Three of the five items here receive more positive or strong positive reactions from the student-teachers. These are HEAR AN INTERESTING TALK, BELONG TO A CLUB FOR STUDY, and FIND OUT ABOUT THE WORLD. These differences are of good reliability. Greater general intellectual curiosity may well characterize those who are chosen to be teachers.

I-10. Scientific interest (Table 368). Clear-cut differences do not appear here, although there is some indication that the student-teachers are more interested in reading ABOUT SCIENCE and ABOUT EVOLUTION. A reliable difference indicates that more of the sophomores dislike reading ABOUT SCIENCE.

There is some evidence here that the student-teachers

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should be ranked above the sophomores in scientific interest.

I-11. Manual and Mechanical interests (Table 369). The differences found here indicate a greater interest by the student-teachers in FIND OUT HOW THINGS WORK and SCIENTIFIC AMERICAN, and may be taken to support the tentative statement made just above. Smaller differences in the same direction appear for the remaining three items of this group.

The student-teachers certainly rank above the sophomores in manual and mechanical interests, so far as these are indicated by the items listed here, and probably also in general scientific interest.

I-12. Music (Table 370). One of the two items under this heading is differential. 20% more of the student-teachers like HEAR SYMPHONIES. This is probably in line with the higher tastes in reading matter shown by the student-teachers rather than a matter of greater financial advantages and consequent opportunity to attend concerts. The Trow questionnaire results indicate that the sophomores actually attended many more entertainments, hence presumably spent more money on recreation than the student-teachers.

I-13. Oral self-expression (Table 371). Two items yield significant differences here. Greater interest

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is shown by the sophomores in MAKING A SPEECH and in INTERVIEWS.

It is worth noting that the sophomores rank above the teachers in interest in oral self-expression, and to a lesser degree above the student-teachers. Teachers actually need freedom in oral self-expression, both in their relationships with their students and in their other professional responsibilities. It would seem strange if teachers are negatively selected for this trait. The situation is parallel to that for interest in humor.

I-14. Rural or urban residence (Table 372). More of the sophomores like LIVING IN THE CITY. While this is the only statistically significant difference for these two items, the reactions to LIVING ON A FARM likewise support the statement that the sophomores are somewhat greater devotees of city life, in contrast to rural life, than are the student-teachers. Of course in both groups, the majority like LIVING IN THE CITY, and only a minority, LIVING ON A FARM.

The student-teachers are in part recruits from outside of the University of Cincinnati. It is probable that more of the student-teachers than of the sophomores come from the country, although direct evidence on this point is not available.

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2. ATTITUDES TOWARD VARIOUS PEOPLE AND RELATIONSHIPS WITH PEOPLE

(Tables 373-386)

II-1. Managing people, leadership (Table 373). To the stimulus, DO EXECUTIVE WORK, 15% more of the sophomores respond positively. This difference is of fair reliability. With this difference should be compared the reactions to two other items. More of the student-teachers like PEOPLE WHO TEND TO ASSUME LEADERSHIP, and more of the student-teachers dislike PEOPLE WHO ARE EASILY LED.

These reactions appear inconsistent. A possible explanation may be that the student-teachers have less of the trait of leadership, as revealed in their reactions to DO EXECUTIVE WORK, but by compensation value more highly PEOPLE WHO TEND TO ASSUME LEADERSHIP.

If the student-teachers are selected negatively for general interest in executive work and leadership, the fact is probably one for regret. The inadequate evidence presented on this point should be checked up and amplified before positive statements are made.

II-2. Activities in which social contacts are important (Table 374). Most of these activities might be listed as amusements. These do not yield significant differences, although there are slight indications

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(differences of 8% and 9%) that possibly more of the sophomores are interested in BRIDGE, AMUSEMENT PARKS, and PICNICS. On the other hand, the one moderately significant difference found in this entire list indicates that more of the student-teachers care for CHECKERS. No clear difference appears for these activities as a whole.

II-3. Activities in which social contacts are at a minimum(Table 375). Reliable differences of 20 and 21% respectively appear for the items BEING LEFT TO YOURSELF, and SOLITAIRE. In each case, more of the sophomores than of the student-teachers react positively.

These interesting differences probably should not be taken as representing less interest in social contacts as such for the sophomores. When a large number of items are taken into account, as in the tentative measure of Interest in Social Contacts, Attitudes VII, there is a significant difference to indicate that the sophomores are somewhat more interested than the student-teachers in social contacts. These two items yield differences contrary to the general trend. It may be noted that less than 50% of either group react positively to the two items.

II-4. Conformity to social usage (Table 376). No significant differences appear for these items. The largest differences found are only of 7%.

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II-5. Susceptibility to social opinion (Table 377). More of the sophomores give positive or neutral reactions to the stimulus NOT GET CREDIT FOR WHAT YOU DO, and fewer of them give strong negative reactions to HAVE TO WEAR SHABBY CLOTHES. On the other hand, more of the sophomores give strong negative reactions to BE CUT BY AN ACQUAINTANCE. It will be remembered that the student-teachers were more interested than the sophomores in success in work. The other differences noted here do not seem quite consistent. The sophomores are more affected by the social cut, the student-teachers by having to wear shabby clothes. A couple of other items in this list, it should be noted, are not differential. These are BE JEERED AT, and BE GOSSIPED ABOUT. On the whole, it cannot be said that there is a significant difference between the sophomores and the student-teachers in general conformity to social usage and susceptibility to social opinion.

II-6. Family relationships (general) (Table 378). More of the student-teachers like reading ABOUT EUGENICS, while more of the sophomores give strong positive reactions to MORE HONORING OF PARENTS BY CHILDREN. More of the student-teachers give strong negative reactions to NEGLECT OF AGED PARENTS BY THEIR CHILDREN. The first two of these differences are of adequate reliability, the last one of less reliability.

These differences must be interpreted in the light

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of the differences revealed in the following group of items.

II-7. Family relationships (personal) (Table 379). More of the sophomores give the strongest positive reaction to LOYALTY TO ONE'S PARENTS. On the other hand, more of the student-teachers give a positive reaction to ATTEND YOUR FAMILY REUNION and the strongest negative reaction to DEATH OF A NEAR RELATIVE.

These differences are not wholly consistent. In two cases it appears that the sophomores are more interested in respect for parents, in one instance that the student-teachers are more concerned. The student-teachers give stronger negative reactions to the DEATH OF A NEAR RELATIVE, and care more about attending a FAMILY REUNION and reading ABOUT EUGENICS. It cannot be said with assurance that either of these groups outranks the other in the valuation placed upon either personal family relationships or general family relationships.

II-8. Children (Table 380). Only one item here is differential, this not to a highly reliable degree. PLAY WITH CHILDREN is liked strongly by 15% more of the sophomores. One would like to feel that those selected to be teachers are likewise selected for interest in children as children, and that they would

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care more about playing with children. This turns out not to be the case.

II-9. Sentiment (Table 381). There is a difference, not very reliable, to indicate that more of the student-teachers dislike strongly SEE CHILDREN LEFT MOTHERLESS. On the other hand, a difference of about equal reliability indicates that more of the sophomores like VERY OLD PEOPLE. A reliable difference points to a stronger negative reaction by the sophomores to SEE A BIG BOY PICK ON A LITTLE FELLOW.

In so far as these three items indicate sentimental reactions, the evidence is two to one that the sophomores are more sentimental. This statement should not be taken too seriously. The evidence is inadequate.

II-10. Home (Table 382). The two items here are not differential to a reliable degree, although slightly more of the student-teachers like both items.

II-11. Friendship (Table 383). Two items here are differential. The sophomores are more interested in BE FRIENDS WITH PEOPLE, and react more strongly in the negative direction to A FALSE FRIEND. The reader may possibly desire to correlate the smaller interest of the student-teachers in friendship with the fact that they are just beginning their own individualistic careers, whereas the sophomores are living in the social atmosphere of college, at an age when friendship

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traditionally counts heavily in life.

II-12. Persons liked or disliked because of their physical traits (Table 384). CROSS EYED PEOPLE are disliked by 14% more of the sophomores. This difference, of only moderate reliability, is the only one here appearing. Tolerance for physical defect is probably a desirable trait in teachers. The evidence here is inconclusive regarding the selection of student-teachers with reference to this question.

II-13. Persons liked or disliked because of their emotional or behavior traits (Table 385). More of the sophomores like EMOTIONAL PEOPLE. Likewise, fewer of the sophomores dislike GLOOMY PEOPLE. These differences are of only fair reliability. PEOPLE WHO ARE SLOW IN MAKING A DECISION are liked by more of the student-teachers, disliked by more of the sophomores. A POOR LOSER is disliked strongly by more of the sophomores.

On the whole, it appears that the sophomores are more tolerant of emotional and gloomy people, but less tolerant of those slow to decide, and decidedly less tolerant of poor losers. Tolerance for temperamental differences is perhaps a virtue in teachers. The student-teachers rate well from this standpoint on their reactions to PEOPLE WHO ARE SLOW IN MAKING A DECISION, but not so well as the sophomores on their reactions to EMOTIONAL PEOPLE and GLOOMY PEOPLE. The

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reader will perhaps wish that the student-teachers had resembled the sophomores more nearly in the latter's strong negative reaction to A POOR LOSER.

II-14. Persons liked or disliked because of their intellectual traits (Table 386). Interestingly, the student-teachers are more inclined than the sophomores to like both PROGRESSIVE PEOPLE and CONSERVATIVE PEOPLE. More of the sophomores than of the student-teachers are indifferent to both of these types of people.

Whether relative indifference is desirable or not, in this case, may be left to the reader's judgment. In any case, it may be noted that large majorities of both groups of sophomores and student-teachers like PROGRESSIVE PEOPLE and only minorities like CONSERVATIVE PEOPLE.

3. ATTITUDES TOWARD VARIOUS SOCIAL, MORAL, AND RELIGIOUS PROBLEMS

(Tables 387-399)

III-1. Religion (Table 387). All of the significant differences here found have reliability to only a fair degree (between 900 and 950 chances in 1000). They are, however, consistent in the picture they present. More of the sophomores like DISCUSS RELIGION, and more of them deny the truth of the statement, "IT IS IRREVERENT OR SACRILEGIOUS TO PUT JESUS CHRIST INTO THE SAME CLASS WITH BUDDHA, CONFUCIUS, OR SOCRATES." On the other hand,

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more of the student-teachers like COMMUNE WITH THE GREAT SPIRIT, THE BIBLE, CHRISTIANIZATION OF THE WORLD, and RELIGIOUS PEOPLE.

Obviously, the student-teachers are more conservative in their religious views, the sophomores more intellectually interested in religion and less inclined to accept conventional Christianity. It will be noted that the interesting statement quoted is marked true by 53% of the student-teachers, almost the same percentage as that of the sophomores who marked it false (54%). Evaluation of these differences must be left to the reader.

III-2. Ethical values (Table 388). More of the sophomores give strong positive reactions to EVEN-HANDED JUSTICE. On the other hand, more of the student-teachers accept as true the statement "COURAGE AND HONOR ARE HIGHER VALUES THAN JOY AND HAPPINESS." This statement is challenged by 17% of the sophomores, in contrast to only 6% of the student-teachers.

Possibly this last difference stresses the greater conservatism of the student-teachers, and their stronger tendency to avoid doubt of established views.

III-3. General interest in social progress (Table 389). All four of the items here listed show differences to suggest that the student-teachers are more interested in working for social progress, but only one of these is significant, statistically. This is the item PROTEST

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AGAINST SOCIAL INJUSTICE. It is doubtless well that the student-teachers have been selected along lines of interest in social service.

III-4. Specific social reforms or means to reform (Table 390). Two of the items are differential. More of the student-teachers are strongly positive to ABOLITION OF CHILD LABOR EVILS and to the item MILK AID ICE FUNDS FOR BABIES. It is interesting to note that there is no difference in reactions to the statement "KINDHEARTEDNESS IS WHAT ONE NEEDS MOST IN ORDER TO DO GOOD IN THE WORLD." 79% of the sophomores and 75% of the student-teachers marked this item as true.

As in the section just preceding, greater interest in social service marks the student-teachers.

III-5. Prohibitory legislation (Table 391). There is a significant difference in the strong positive reactions to REPRESS GAMBLING. 18% more of the sophomores give these reactions. On the other hand, PROHIBIT SMOKING TOBACCO is not differential. It may be noted that neutrality is the common reaction to this latter item, and that only 54% of the sophomores and 49% of the student-teachers dislike this item.

It may also be noted that Cincinnati is a city which has race tracks in its suburbs and where the gambling evil has been conspicuous for several years. Perhaps the

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sophomores are better acquainted with local conditions, hence react more strongly against this local evil.

III-6. Freedom of speech and opinion (Table 392). Only one of the four items listed here is differential. FREER DISCUSSION OF SOCIAL AND POLITICAL QUESTIONS is liked by 15% more student-teachers than sophomores. This difference is of moderate reliability. The evaluation of the difference is left to the reader.

III-7. Feminine propriety (Table 393). No significant differences appear, although reliabilities of 839 chances in 1000 and 855 chances in 1000 respectively attach to the statement that more of the student-teachers like SEE WOMEN GO INTO PROFESSIONS LIKE MEDICINE AND LAW and that more of the student-teachers dislike SMOKING BY WOMEN.

III-8. Problems of capital and labor (Table 394). Out of the thirteen items under this classification, only four differentiate the sophomores from the student-teachers. More of the sophomores dislike to read ABOUT LABOR PROBLEMS, ABOUT SOCIALISM, and LABOR AND SOCIALIST DAILIES. More of the sophomores reject the statement "NEWS PUBLISHED BY THE AVERAGE PAPER IS BIASED IN FAVOR OF THE EMPLOYERS AND BIG BUSINESS MEN."

There is at least a suggestion in these differences that the student-teachers are more interested in problems

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of capital and labor, and possibly more hospitable to labor views than the sophomores.

As in the preceding chapter, it may be noted that apathy and indifference to the problems indicated here is an attitude characteristic of both sophomores and student-teachers.

III-9. Political interest (Table 395). 39% more of the student-teachers than of the sophomores like MORE INTEREST IN LOCAL POLITICS. This is a surprisingly large difference. It may doubtless be accepted as favoring the student-teachers.

III-10. International relations (Table 396). HATRED BETWEEN NATIONS receives more neutral reactions from the sophomores; and more strong negative reactions from the student-teachers. On the other hand, CONQUEST OF WEAK NATIONS BY STRONG NATIONS receives more neutral reactions from the student-teachers and more strong negative reactions from the sophomores. More of the student-teachers like WORLD DISARMAMENT, and more of the sophomores dislike this item. More of the sophomores give strong negative reactions to the statement "THE JAPANESE ARE AN INFERIOR BUT DANGEROUS PEOPLE WHO NEED TO BE TAUGHT THAT WE ARE MASTERS OF THE PACIFIC OCEAN."

It is by no means clear that the student-teachers are more concerned than, or even as much concerned as,

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the sophomores about good international relations. Certain of the reactions are interesting. 42% of the sophomores and 57% of the student-teachers like WORLD DISARMAMENT. 91% of each group reject the statement just quoted, about the Japanese. The difference between the groups for this latter is solely in the emphasis placed upon the negative reactions.

III-11. Punishment of crime (Table 397). The reactions to the two items under this heading are not differential.

III-12. Negroes (Table 398). 15% more of the student-teachers than of the sophomores react positively to FAIR TREATMENT FOR COLORED PEOPLE. The stimulus FAIR TREATMENT FOR COLORED PEOPLE is liked by considerably more than a majority of both groups, 69% of the sophomores and 84% of the student-teachers. The stimulus SOCIAL JUSTICE FOR NEGROES is also liked by a majority of each group, although not by such large percentages as in the first case. Negative reactions are negligible to both items.

III-13. Schools and teaching (Table 399). Highly reliable differences appear for two of the three items classified here. 38% more of the student-teachers like strongly BETTER PAY FOR SCHOOL TEACHERS. 21% more of the student-teachers like TEACHING. It is interesting to note that only 3% of the student-teachers are neutral

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or negative to BETTER PAY FOR SCHOOL TEACHERS, while 30% of the sophomores are neutral or negative. Negative reactions to TEACHING were lacking for the student-teachers, and are given by only 6% of the sophomores.

4. TOWARD VARIOUS OCCUPATIONS

The following occupations are liked by more of the sophomores than of the student-teachers: DRESSMAKER, GOVERNESS, NURSE, PRIVATE SECRETARY (SOCIAL) (Table 400). The following are disliked by more of the student-teachers: GOVERNESS, NURSE, PRIVATE SECRETARY (SOCIAL), RETAIL SALES CLERK, and STENOGRAPHER.

The following occupation is liked by more of the student-teachers: TEACHER. The following occupations are disliked by more of the sophomores: DRAFTSMAN, FARMER, and TEACHER.

Although these differences are relatively few, they are suggestive when compared with the classification of the occupations listed. There is a slight tendency for the sophomores to be more interested in occupations which have their major contacts with people, and which are regarded as romantic or on the border-line between the prosaic and the romantic. These differences are slight, but are in the same direction as the differences between the sophomores and the teachers.

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5. GENERAL TENDENCIES

Four of the ten tentative measures of general tendency with regard to attitudes are differential as between the sophomores and the student-teachers (Table 357).

The sophomores appear to have a wider range of recreational interests and to have more interest in social contacts. These apparent differences are in substantial agreement with the results from the detailed study of the interest questionnaires.

The student-teachers appear to have a wider range of affective reactions, although the actual differences here are small. They also have a wider range of interests in reading, according to the tentative measure worked out. Range of affective reactions corresponds closely to the measure of affective spread used by Pressey in his X-O test ( ). The only interpretation which is given for this measure is that it correlates positively with success in academic work. The measure of range of interests in reading is, of course, affected by the particular types of reading matter listed.

6. SUMMARY

The sophomores are more interested in: (a) financial

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success, items suggesting sensitiveness to unpleasant personal experiences, reading about sport, popular reading and other leisure time activities, humor, oral self-expression, and city life; (b) executive work, and friendship; (c) items suggesting intellectual interest in religion, and repression of gambling; (d) occupations in which the major contacts are with people and which are more apt to be regarded as romantic or on the border-line between the romantic and the prosaic.

The student-teachers are more interested in: (a) success in work, high grade reading, items suggesting general curiosity and scientific interest, manual work and mechanical matters, listening to symphonies; (b) none of the items under attitudes toward various people and relationships with people; (c) conservative religious views, social progress and certain reforms, freedom of speech and opinion, labor problems and labor views, local politics, negro welfare, and teaching; (d) occupations in which the major contacts are with things and which are more apt to be considered prosaic.

The sophomores have a greater range of recreational interests and more interest in social contacts, in terms of the tentative measures of general tendency. Likewise, the student-teachers have a greater range of affective

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reactions and a greater range of interests in reading.

It is noticeable that the differences in attitudes and interests are in the main small, depending upon relatively few items, yet tending to lie in the same direction as the differences between the sophomores and the teachers in service. For many topics, no clear-cut difference appears. The summary statements above are notable for their omission of some of the major topics, attitudes toward which were measured. Consistent and reliable differences are not found for these topics.

G. SOCIALIZATION

1. GENERAL

A significant difference appears between the mean scores for the sophomores and the student-teachers in favor of the latter (Table 357). The mean for the sophomores is -12.28, that for the student-teachers is -7.97. The mean for the student-teachers obviously falls in between the means for the sophomores and the teachers. The student-teachers are more highly socialized, as judged by the criterion of resemblance to the Hart "leaders of social progress", than the sophomores, but less highly socialized than the

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teachers-in-service.

2. DETAILED ANALYSIS

The sophomores surpass the student-teachers in intellectual interest in religion (Table 401). They likewise surpass the student-teachers in international-mindedness, as measured in one set of items, but not in international and interracial-mindedness, as measured in another set. The apparent inconsistency is due to the way Hart selected the items which make up these sets. While the differences between his leaders and control group were consistent for the items he lumped together, they are not so in all cases for the groups here compared.

The student-teachers surpass the sophomores in general altruism, interest in economic justice, and intellectuality and craving for truth. The long list of differences which appear as between the sophomores and the teachers (Chapter III) is somewhat abbreviated for the comparison of sophomores and student-teachers.

H. SUMMARY

1. General. The sophomores are younger than the student-teachers by approximately three and a half years, on the average, are less highly selected, are not

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yet professionally inclined, and are not in any such responsible positions as the student-teachers.

2. Social and Economic Background. In certain respects, the sophomores are more like the socially inclined subjects of Freyd's investigation, and the student-teachers more like the mechanically inclined, as measured in terms of economic and social background. The student-teachers come from larger families than the sophomores, in which the fathers have had less education on the average, and where the social adaptation of the family was probably poorer. More of the sophomores were oldest children, and more of the student-teachers in between the oldest and youngest. The sophomores were probably more influenced, on the average, by their fathers, and the student-teachers more by their mothers. More of the student-teachers would desire a more cheerful environment, had they their lives to live over again, though more of the sophomores state that they wanted to run away from home.

3. Intelligence. The evidence is inconclusive and misleading, as obtained in this research, but in all probability the student-teachers are noticeably superior to the sophomores in general intelligence, on the average.

4. Commonality of response. The association test shows only a slight and unreliable difference between

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the sophomores and the student-teachers.

5. Leisure time activities. The sophomores engaged in one and a half times as many leisure time activities as the student-teachers. For all types of these activities except uplift activities, the sophomores surpass the student-teachers in participation.

6. Attitudes and interests. The differences in attitudes between the two groups toward personal activities and satisfactions, people and relationships with people, and social, moral, and religious problems are not highly marked, but have a definite trend in the same direction as the differences between the sophomores and the teachers-in-service for the corresponding stimuli. No significant difference appears with reference to susceptibility to social opinion, interest in international relations, sentiment, family relationships, or for many others of the topics on which data were obtained.

The somewhat greater interest shown by the sophomores in occupations involving major contacts with people and which are considered romantic rather than prosaic, together with the higher average scores for the sophomores on range of recreational interests and interest in social activities, suggest a greater tendency toward extroversion on the part of the sophomores. This is supported by certain of the differences found within

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the lists of attitudes, for example, the greater interest which the student-teachers have in manual work and mechanical matters.

7. Socialization. The student-teachers occupy an intermediate position between the sophomores and the teachers-in-service on general socialization. They are definitely superior to the sophomores, on the average, although a detailed analysis of the differences reveals this as of less extent than the differences between the sophomores and the teachers. Such as are found are in the same direction as those for the sophomores and the teachers.

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CHAPTER V. COMPARISON OF STUDENT-TEACHERS WITH TEACHERS

A. GENERAL

The groups of student-teachers and teachers have been described in detail in Chapter II.

The student-teacher group is one of the sources for the new teachers needed yearly by the Cincinnati public schools. Practically all the members of this group regularly continue to teach in Cincinnati. At the same time, there have not been enough student-teachers in any one year to supply all the local needs for teachers.

The teachers-in-service are nearly all teaching in the Cincinnati public schools. To some extent, their ranks are recruited from the student-teacher group. It has already been pointed out that the teachers-in-service must be considered as a highly selected group, in comparison with teachers the country over.

In amount of training and in age they rank far above the average rural teachers, and probably above the average city teachers.

In age, the group of teachers studied averages well above the group of student-teachers (Table 403). The difference is over ten and a half years. The mean

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age for the student-teachers is 23.34 years, while that for the teachers is 33.96. There is some overlapping in age, but this is slight.

Age may be one of the factors tending to produce differences between the student-teachers and the teachers. Other factors which may be involved are intelligence, character and amount of academic and professional training, and character and amount of professional experience. The effect of age upon the attitudes of the teachers will be studied in some detail in a later chapter of this report, likewise the effect of type and extent of training. Evidence which will be presented in a later section of this chapter indicates that the student-teachers and teachers-in-service do not differ materially in mean intelligence. The last factor suggested above, that of nature and amount of professional experience, cannot be evaluated on the basis of the data at hand. Several factors are doubtless at work to affect the comparisons of the student-teachers and teachers, but not all of them can be segregated for special study.

B. SOCIAL AND ECONOMIC BACKGROUND

1. ECONOMIC AND EDUCATIONAL

Three differences of statistical significance

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appear for the education of the parents of the members of these groups (Table 402). All of the fathers of the student-teachers finished at least the grades, but 10% of the fathers of the teachers failed to do so. Although the difference in actual figures is small, it is statistically of high reliability. 17% more of the mothers of the teachers had less than a high school education. The actual figures here are 42% for the mothers of the student-teachers, and 59% for the mothers of the teachers.

The mean number of children in the homes from which the student-teachers come is reported as 4.52, while that for the teachers is 4.21 (Table 403). The slight difference is not statistically reliable. It is interesting to note that the members of the student-teacher group come from as large families as the members of the teacher-in-service group.

No statistically significant difference appears for the subjects' ratings of the financial circumstances of their families when they were children. It may be noted, however, that 9% more of the teachers give the answer "poor" to this question, and 9% more of the student-teachers give the answer "moderate" or "well-to-do." These differences are not reliable.

The teachers-in-service come from homes of poorer educational background, on the average, than those of

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the student-teachers. The case is not so clear regarding differences in economic background. If number of children in family are used as an indication for this, the two groups rate practically the same. The answers to the direct question on economic circumstances do not reveal clear differences, although they suggest a slightly lower economic level for the families of the teachers.

2. SOCIAL BACKGROUND

Only slight differences appear in the extent to which family acquaintanceship was limited to people of the same religious belief. On the other hand, 12% more of the teachers than of the student-teachers report that their families entertained and were entertained to an equal extent. The student-teachers tend to report that their families were more often entertained or more often did the entertaining.

Differences in social background are not clearly revealed by the questions here reported upon.

3. FAMILY RELATIONSHIPS

10% more of the student-teachers were only children, and likewise 10% more of them were youngest children. The first of these differences meets the statistical criterion, but the second falls below it. 12% more of

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the teachers report that they were in between the youngest and oldest, but this difference falls slightly below the statistical criterion.

No significant differences appear with regard to the treatment the subject received as a child in comparison with their brothers and sisters.

More of the teachers liked the father better in childhood, while more of the student-teachers liked both the father and mother equally. More of the teachers report that the father was the parent who most influenced them. More of them report the father as dominant in the family, and more of the student-teachers report that neither parent dominated. For the questions regarding the parent liked better by the subject, and the parent dominant in the family, slightly more of the teachers name the mother, in addition to the noticeably larger percentages naming the father. The student-teachers tend more to give the reply "both equally" to the first of these questions, and the reply "neither" to the second one.

The evidence points to greater paternal influence in the lives of the teachers, and to a more equally divided influence between the two parents in the lives of the student-teachers.

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4. SATISFACTION WITH EARLY ENVIRONMENT

Slightly higher percentages of the teachers report that they had a desire to run away from home, and that they actually ran away. The differences are small; 5% and 6%, respectively, and are unreliable. The difference found for the answers to the question whether a change in home and other environmental conditions would be desired, if the subject had his childhood to live over again, is likewise unreliable. 8% more of the teachers-in-service than of the student-teachers answer "yes" to this qyestion.

On the other hand, reliable differences are found for the question whether if the subject had his life to relive, he would desire a wealthier environment, more refined playmates, and more cheerful conditions. To all of these questions more of the teachers give positive answers.

The evidence for the final question points to a happier home environment for the student-teachers, although the difference in answers to these questions may be interpreted as having their basis in differences in adult evaluation rather than in actual childhood conditions. It seems probable, however, that the homes of the teachers were less cheerful and less satisfactory than the homes of the student-teachers.

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5. SUMMARY

The student-teachers come from homes where the parents have had better educational advantages than the parents of the teachers. The members of these two groups come from families of equal size, on the average. The economic status of the homes from which the student-teachers and teachers come was probably about equal, though there are slight suggestions that the teachers come from less well-to-do homes. The father appears to have been dominant in the family, to have been better liked, and to have had more influence, in the lives of the teachers. The teachers show less satisfaction with their early home life than do the student-teachers.

To a slight degree, these differences correspond to the differences found by Freyd between the mechanically and the socially inclined. The student-teachers tend slightly to have personal histories more like those of the socially inclined, while the teachers tend to have personal histories more like those of the mechanically inclined. These comparisons do not hold in every respect. They are suggestive, however, when considered in comparison with the differences found between the sophomores and student-teachers. The student-teachers stand, on the whole, in an intermediate

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position, between the sophomores and the teachers measured. This is true for certain of the personal history items, as well as for various other differences yet to be reported.

C. INTELLIGENCE

No marked difference appears between the Army Alpha means for the student-teachers and the teachers (Table 403). The mean score for the student-teachers is 153.0 and that for the teachers is 149.6. The slight difference favoring the student-teachers has a reliability of only 808 chances in 1000.

If either of these mean scores is in error, it is probable that the mean score for the student-teachers is too high. The student-teachers may be expected to be more familiar with intelligence and educational tests, on the average, than the teachers. Evidence is not at hand to show how many members of either group had taken similar intelligence tests recently, but practically all of the student-teachers would automatically have been given some sort of intelligence test in connection with their educational psychology work three or four years earlier.

It is surprising that the student-teachers, all of whom are graduates of colleges, and all of whom have been

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highly selected for superior intellectual attainment, do not surpass markedly the teachers-in-service, an older group, far less highly selected. One-half of the teachers hold college degress. They are considerably older than the student-teachers, on the average, many of them as much as twenty years older. The actual figures speak well for the teachers measured. From the standpoint of intelligence, they are a highly selected group.

D. COMMONALITY OF RESPONSE

The mean for the student-teachers is slightly above that for the teachers, but the difference has a reliability of only 791 chances in 1000 (Table 403). The mean for the student-teachers is 35.24, and that for the teachers is 31.60. The apparently higher average score for the student-teachers seems to indicate that they are more extroverted than the teachers. This single measure, however, is not reliable enough by itself to justify such a statement. It may be noted that the mean score for the student-teachers is above that for the sophomores as well as that for the teachers. The student-teachers do not occupy an intermediate place in this respect as they did in some of the others.

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E. LEISURE TIME ACTIVITIES

1. THOW TOTAL ACTIVITY SCORE

The mean number of leisure time activities indulged in by the student-teachers during the twenty weeks' period reported upon is 82.0 (Table 403). The corresponding figure for the teachers is 77.2. The difference is reliable. The student-teachers here assume an intermediate position between the sophomores and the teachers-in-service. The average number of the activities listed here which are indulged in each week by the student-teachers is over four and a half. The average number for the teachers is less than four.

2. THOW PARTIAL SCORES

a. Thow Partial 1. Uplift Activities

The student-teachers and the teachers rank about the same on these activities (Table 405). The means are 24 and 27, respectively. More of the student-teachers than the teachers attended during the twenty weeks no operas, recitals, or lectures outside of the classroom, and visited no museums or art galleries (Table 404). More of the student-teachers, however, attended church regularly during the twenty weeks.

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b. Trow Partial 2. Social Activities

The average number of these activities for the student-teachers is 25 (Table 403). The corresponding number for the teachers is 17. The difference is reliable. More of the teachers attended no dances (Table 404).

c. Trow Partial 3. Light Entertainment

The student-teachers rate slightly above the teachers (Table 403). The mean number of activities of this type for the student-teachers is 23, while that for the teachers is 19. More of the student-teachers went to no athletic contests during the twenty weeks (Table 404).

d. Trow Partial 4. Physical Exercise

Almost exactly identical reports are given by the student-teachers and the teachers (Table 403). 12 periods of physical exercise, gymnasium games, outdoor games, walks in the country, etc., are reported by the average member of each group, for a twenty weeks' period. For both of the items listed here, however, the teachers report more zero participations (Table 404).

Evidently the student-teachers, who have just graduated from college and have had the benefit of gymnasium training in their course, are no more interested

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in physical exercise, or at least take no more exercise than the older, experienced teachers. The condition is not favorable for the maintenance of good health among either the experienced teachers or the teachers just beginning their work.

e. Trow Partial 5. Non-professional Books Read

The student-teachers and the teachers rank about the same in regard to non-professional books read (Table 403). Each group reports, on the average, slightly less than one book read for every two weeks. The means are 9 for the student-teachers and 8 for the teachers. The thought occurs that possibly the members of both of these groups would profit by giving some of the time now spent in reading to the maintenance of good health through physical exercise.

F. ATTITUDES AND INTERESTS

1. ATTITUDES TOWARD VARIOUS PERSONAL ACTIVITIES AND SATISFACTIONS (Tables 405-418)

I-1 and I-2. Success in work and financial success (Tables 405-406). Only two items in these two groups show significant differences. These are the items ABOUT BANKING and IN OUT IN HIS FINANCIAL WORLD, in both of which more of the teachers are

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interested. The trend shown by the several smaller difference is likewise toward greater interest by the teachers in financial success. The one item under success in work is not differential.

The teachers are in most cases older than the student-teachers. Maturity and experience in earning and handling money are doubtless correlated with the differences found.

I-3. Uncomfortable or unpleasant personal experiences (Table 407). The differences found here are not consistent with each other. More of the teachers give strong negative reactions to HAVE AN OPERATION and more of them dislike HEAR A CARELESS PLAYER POUND A PIANO. On the other hand, more of the student-teachers give strong negative reactions to UNEXPECTEDLY TOUCH A DEAD BODY and BE BORED. The first two of these items suggest unpleasantness attaching to certain sensory stimuli; while the latter two items suggest discomfort which has less of a physical basis.

According to the differences in these reactions, the student-teachers feel less strongly about physical discomfort, but the teachers are less affected by a trying social situation (BE BORED) or the sudden shock of UNEXPECTEDLY TOUCHING A DEAD BODY.

I-4. Sport and outdoor recreation (Table 408). Several items in this group are differential. More of the student-teachers like SPORTING PAGES, SPORTING

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NEWS, FISHING, PLAYING TENNIS, and SWIMMING. DRIVING AN AUTOMOBILE yields differences of a different nature. More of the student-teachers are neutral to this stimulus, whereas there are significantly greater proportions of the teachers than of the student-teachers both who like and who dislike the item.

The greater interest of the student-teachers in SPORTING NEWS and outdoor recreations is easily understandable, in view of the age differences. On the other hand, it is perhaps equally natural that the student-teachers, most of whom do not have automobiles of their own or incomes sufficient to contemplate their purchase, should be more neutral than the teachers to DRIVING AN AUTOMOBILE.

I-5. High grade reading and other leisure time activities (Table 409). More of the teachers like strongly BOOKS THAT HAVE STOOD THE TEST OF TIME and ATLANTIC MONTHLY, and like REVIEW OF REVIEWS. On the other hand, more of the student-teachers like PHILOSOPHY, and LYRIC POETRY. More of the student-teachers dislike TRAVEL MOVIES.

The differences here are not all in the same direction. For two differential items, the student-teachers show greater interest; for four items, the teachers show greater interest. It is interesting that

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PHILOSOPHY and LYRIC POETRY should be the two items in which the student-teachers show greater interest than the teachers. LYRIC POETRY may well be the delight of youth, but PHILOSOPHY is usually thought of as an interest which deepens with age.

I-6. Popular reading and other leisure time activities (Table 410). THE RED BOOK MAGAZINE is liked by more of the student-teachers. There is indication of stronger interest by the teachers than by the student-teachers in the AMERICAN MAGAZINE. More of the student-teachers dislike VAUDEVILLE and more of them dislike MARY PICKFORD.

Three out of four items listed under popular reading and other leisure time activities thus prove more attractive or less unattractive, to the teachers than to the student-teachers. On the other hand, four out of six differential items in the group entitled high grade reading and other leisure time activities receive reactions indicative of greater interest by the teachers. Taken together, these facts do not imply that the advent of the student-teachers is elevating or lowering the standards of the teaching profession, so far as standards of taste are concerned. While the student-teachers and teachers differ in what they like and dislike, they seem to be about on a par.

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I-7. Low grade reading and other leisure time activities (Table 411). Differences of moderate reliability indicate greater dislike for SMART SET and SNAPPY STORIES by the student-teachers. A greater dislike may, of course, be due to greater sophistication, i.e., closer acquaintance with the items mentioned. These differences do not change the general conclusion that the student-teachers and teachers are on the same level in standards of taste.

I-8. Humor (Table 412). More of the student-teachers give strong positive reactions to WORKS OF MARK TWAIN, and more of the student-teachers likewise like CHARLIE CHAPLIN. These differences are supported by two other slightly less reliable differences, which suggest that more of the student-teachers like "LIFE" and "JUDGE."

It may be concluded that the student-teachers have greater interest in humor.

I-9. General curiosity (Table 413). Only one item yields a reliable difference. This is BELONG TO A CLUB FOR STUDY, to which 14% more of the teachers give strong positive reactions.

Apparently the student-teachers do not differ markedly from the teachers in general curiosity.

I-10. Scientific interest (Table 414). DISCOVER

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TRUTH and DO RESEARCH WORK receive more strong positive reactions from the teachers. The item, CLEAR THINKING, could perhaps be considered with these, as the same difference appears, although to a somewhat lower degree and with less reliability. On the other hand, more of the student-teachers are interested in reading ABOUT SCIENCE and ABOUT EVOLUTION.

Perhaps the teachers are more interested in scientific standards and procedures, but the student-teachers rate higher in interest in reading about scientific theories.

I-11. Manual and mechanical interests (Table 415). The student-teachers are more inclined to react positively to FIND OUT HOW THINGS WORK and to SCIENTIFIC AMERICAN. On the other hand, they are more inclined to react negatively to POPULAR MECHANICS. Possibly the distinction between the two is that SCIENTIFIC AMERICAN represents genuine science more accurately than POPULAR MECHANICS, with its stress upon the spectacular, and the mechanical.

It would be interesting to question further whether the student-teachers really rate above the teachers in manual and mechanical interests. The present evidence is inconclusive.

I-12. Music (Table 416). For these two groups the item PLAY IN AN ORCHESTRA is differential. The

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student-teachers react more negatively to PLAY IN AN ORCHESTRA than do the teachers.

I-13. Oral self-expression (Table 417). More of the student-teachers like TELLING A STORY, while more of the teachers dislike ARGUMENTS and ORGANIZING A PLAY. On the other hand, more of the student-teachers dislike MAKING A SPEECH.

It is not clear that either group stands out particularly in interest in oral self-expression. If either does, it would be the group of student-teachers.

I-14. Rural or urban residence (Table 418). More of the teachers dislike LIVING ON A FARM. The difference is fairly reliable.

2. ATTITUDES TOWARD VARIOUS PEOPLE AND RELATIONSHIPS WITH PEOPLE

(Tables 419-432)

II-1. Managing people, leadership (Table 419). DO EXECUTIVE WORK receives more strong positive reactions from the teachers. PEOPLE WHO TEND TO ASSUME LEADERSHIP are liked by more of the student-teachers. These are the only significant differences herein.

Perhaps the teachers are more interested in managing people, and liking PEOPLE WHO TEND TO ASSUME LEADERSHIP signifies lack of leadership qualities.

II-2. Activities in which social contacts are

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important (Table 420). Three of these activities, CHECKERS, DANCING, and LISTENING TO A STORY, are liked by more of the student-teachers. One activity, CONVENTIONS, is liked by more of the teachers.

On the whole, the student-teachers are probably more socially inclined than are the teachers.

II-3. Activities in which social contacts are at a minimum (Table 421). The one item, BEING LEFT TO YOURSELF, receives more positive reactions from the teachers and more negative reactions from the student-teachers. This is in agreement with the statement made in the preceding section.

II-4. Conformity to social usage (Table 422). More of the teachers give the strongest positive reaction, and more of them give neutral or negative reactions to reading ABOUT WHAT IS PROPER TO WEAR. More total positive reactions, however, are given by the student-teachers. More of the student-teachers give strong negative reactions to BE IN INFORMAL CLOTHES AT A FORMAL AFFAIR.

On the whole, the student-teachers appear to care somewhat more about conformity to social usage, although the evidence is conflicting.

II-5. Susceptibility to social opinion (Table 423). Student-teachers are definitely more susceptible to social opinion, as determined by their reactions to these

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stimuli. They give more strong negative reactions to BE JEERED AT, NOT GET CREDIT FOR WHAT YOU DO, BE CUT BY AN ACQUAINTANCE and HAVE TO WEAR SHABBY CLOTHES.

II-6. Family relationships (general) (Table 424). Only one item is here differential. This is MAKE DIVORCE HARDER, which is given strong positive reactions by more of the student-teachers.

II-7. Family relationships (personal) (Table 425). The trend is toward greater interest in family relationships for the student-teachers. More of them like GO WALKING WITH YOUR FATHER, like strongly LOYALTY TO ONE'S PARENTS, and dislike strongly RUDENESS TO ONE'S FATHER. The only fact at variance with the conclusion that the student-teachers are more interested in family relationships appears in the minor differences on the strongest positive reactions to LOYALTY TO ONE'S PARENTS. 11% more of the teachers give the strongest positive reaction to this item.

II-8. Children (Table 426) Differences of moderate reliability, of 14 and 12% respectively, indicate that the teachers are more interested in PLAYING WITH CHILDREN and reading ABOUT THE PROPER FEEDING OF CHILDREN. These differences appear for the strong positive reactions. However, when all the positive reactions are taken into account, there is a slightly greater interest shown by the student-teachers, although not enough of a difference

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maintains to be reliable.

There is not adequate evidence here for rating either group of subjects definitely above the other in interest in children.

II-9. Sentiment (Table 427). More of the student-teachers give the strongest negative reaction to SEE CHILDREN LEFT MOTHERLESS, but on the other hand, more of the teachers give strong negative reactions to SEE A BIG BOY PICK ON A LITTLE FELLOW. By and large, the student-teachers and teachers rate about the same on sentiment, it appears.

II-10. Home (Table 428). More of the teachers give strong positive reactions to MAKE IMPROVEMENTS IN YOUR HOME, but more of the student-teachers like LADIES HOME JOURNAL. In neither of these groups are there any neutral or negative reactions to MAKE IMPROVEMENTS IN YOUR HOME. Everyone likes this item. Again, the teachers and student-teachers stand about even as regards interest in their homes.

II-11. Friendship (Table 429). Sizeable differences indicate that the student-teachers care more about friendship. More of them give negative or strong negative reactions to the items BE LONELY, MOVE AWAY FROM FRIENDS, and A FALSE FRIEND.

The student-teachers are younger than the teachers and perhaps more of them have had immediate experience within the year of loneliness or moving away from friends.

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whether for these or other reasons, they place greater stress on friendship.

II-12. Persons liked or disliked because of their physical traits (Table 430). FAT MEN are liked by none of the student-teachers and by 10% of the teachers. The difference is reliable. SIDE SHOW FREAKS are liked by 12% of the student-teachers and by only 2% of the teachers. They are disliked by 69% of the student-teachers and 74% of the teachers. The differences have fair reliability.

The differences are not large for these items, and should not be considered too seriously. The actual number of cases involved in the differences is small, even though the reliabilities are satisfactory.

II-13. Persons liked or disliked because of their emotional or behavior traits (Table 431). More of the student-teachers like PEOPLE WHO ARE SLOW IN MAKING DECISIONS and TALKATIVE PEOPLE. A difference of not quite so good reliability indicates that EMOTIONAL PEOPLE are likewise better liked or less disliked by the student-teachers.

The student-teachers evidently are more tolerant than the teachers of talkativeness, slowness in decision, and emotionality.

II-14. Persons liked or disliked because of their intellectual traits (Table 432). No difference of

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significant size appears for the items listed here.

3. ATTITUDES TOWARD VARIOUS SOCIAL, MORAL, AND RELIGIOUS PROBLEMS (Tables 433-445)

III-1. Religion (Table 433). A considerable number of items in this long list are not differential. The first ones to show a difference of statistical validity are HOLY HARMONY WITH THE DIVINE PURPOSE and COMMUNE WITH THE GREAT SPIRIT. The first of these receives more of the strongest positive reactions from the teachers. The second is liked by more of the teachers. On the other hand, the student-teachers give more strong negative reactions to the next item, FEEL THAT GOD HAS FORGOTTEN YOU. MORE USE OF PRAYER, however, receives reactions in general agreement with those to COMMUNE WITH THE GREAT SPIRIT, with more positive reactions from the teachers. The statement, BY MEANS OF PRAYER ONE MAY, IN TIME OF NEED, GET HELP FROM SPIRITUAL FORCES OUTSIDE HIMSELF, is marked false by 19% of the student-teachers, and 6% of the teachers. The difference is fairly reliable, and has a suggestion of somewhat less orthodoxy among the student-teachers. THE BIBLE is liked by more of the student-teachers than of the teachers, however. Finally, more of the teachers react positively to APPLICATION OF CHRISTIAN IDEALS TO

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MODERN INDUSTRY. This concludes the reliable differences for this list of items.

It may be noted that the items which tend to reveal intellectual interest in religion, DISCUSS RELIGION and ABOUT DIFFERENT RELIGIONS, are not clearly differential, although very slight differences appear to indicate that the student-teachers may be more interested. RELIGIOUS PEOPLE and IRRELIGIOUS PEOPLE are likewise among the non-differential items, as is also the statement IT IS [illegible] SACRILEGIOUS TO PUT JESUS CHRIST INTO THE SAME [illegible] WITH BUDDHA, CONFUCIUS, OR SOCRATES.

Of the seven clearly differential items, five yield differences wherein the teachers adopt a more orthodox Christian position than the student-teachers. The two items to which the student-teachers react more conservatively than the teachers are THE BIBLE, which appears in a list of "things to read and study," and WHAT WAS GOD WAS FORGOTTEN YOU, where the student-teachers give 21% more strong negative reactions. On the whole, it appears that the teachers are more conservative with regard to religion than the student-teachers, although the differences are in the main small, and for certain stimuli tend to be in the opposite direction. Inspection of the tables from which the

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differences are derived indicates that both groups give reactions which, on the average, seem to be typical of conservative Christian beliefs and attitudes.

III-2. Ethical values (Table 434). Neither of the two items listed here is differential enough to meet the statistical criterion. EVEN-HANDED JUSTICE receives 12% more strong positive reactions from the teachers than from the student-teachers. This difference has a reliability of 881 chances out of 1000, not enough to be counted upon with any assurance.

III-3. General interest in social progress (Table 435). One item is differential here, with good reliability. 16% more of the teachers like strongly the item STIR ENTHUSIASM FOR A GOOD CAUSE.

The indication is that the teachers may be slightly more concerned about social progress, although a single difference may not be regarded as decisive. The one differential item in this group is of a general nature, STIR ENTHUSIASM FOR A GOOD CAUSE. The differences found for the next group of items are in the opposite direction. These items are specific.

III-4. Specific social reforms or means to reform (Table 436). Three of the four specific reforms listed here show differences of 15% or over to indicate stronger interest by the student-teachers. These are ABOLITION OF

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CHILD LABOR EVILS, CHRISTMAS CHEER FOR THE POOR, and MILK AND ICE FUNDS FOR BABIES. Likewise, the student-teachers give more positive reactions to the statement, KINDHEARTEDNESS IS WHAT ONE NEEDS MOST IN ORDER TO DO GOOD IN THE WORLD, i.e., accept it as true in more cases, while more of the teachers reject it as false. These differences are of fair reliability.

While the teachers may possibly adopt the attitude of enthusiasm for social progress to a greater degree than the student-teachers, the student-teachers are more enthusiastic regarding the specific reforms mentioned in the questionnaire. The student-teachers also seem to have somewhat more faith than the teachers in the value of kindheartedness as a trait most needed for one to do good in the world. Whether the differences are due to maturity and experience and possibly disillusionment on the part of the teachers, or are due to selective factors which mean that the student-teachers are introducing certain different attitudes into the teaching body, does not appear in these results.

III-5. Prohibitory legislation (Table 437). One difference appears under this heading. 19% more of the student-teachers dislike PROHIBIT SMOKING TOBACCO. The student-teacher group adopts a more tolerant attitude toward smoking tobacco than does the teacher group.

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III-6. Freedom of speech and opinion (Table 438). One of the four items here shows a difference of fair degree of reliability. 13% more of the teachers mark as false the statement, SOCIALISTS ELECTED TO LEGISLATURES SHOULD NOT BE ALLOWED TO SERVE.

For this item, the teachers are more tolerant than the student-teachers. This finding contrasts with the one for smoking tobacco, mentioned just above. It may be noted that the actual percentages of those who regard the statement here quoted as false are high for both groups; 74% for the student-teachers, 87% for the teachers.

III-7. Feminine propriety (Table 439). So far as reactions to the item SMOKING BY WOMEN are concerned, tolerance is shown only by neutral reactions, practically never by genuine positive reactions. Only 3% of the student-teachers and 2% of the teachers admit that they like SMOKING BY WOMEN. However, 38% of the student-teachers and 24% of the teachers are neutral in their reaction. Taking either the combined positive and neutral reactions, or the combined negative reactions, one finds that there is fairly reliable evidence of more tolerance for SMOKING BY WOMEN on the part of the student-teachers.

The student-teachers are still students in college,

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whereas the teachers average considerably older and in many cases have not had recent contact with college life. Reliable evidence is not at hand regarding prevalence of smoking among women in the University of Cincinnati, but it is doubtless to be expected that college graduates would differ from older women in their attitudes on this question.

III-8. Problems of capital and labor (Table 440). There are not many differences for the long list of items under this heading; nor are the differences which do appear very marked. In the main, the members of both of these groups tend to give neutral reactions to these items. Interest in the problems of capital and labor seems to be slight, for both groups. With the exception of the statements in List 9 of the Hornell Hart test, where the letter N was not printed and neutral reactions were accordingly rare, only one item receives definitely positive or negative reactions from more than 50% of either group. This is the item, SOVIET CONTROL IN INDUSTRY, which receives negative reactions from 68% of student-teachers and 78% of teachers. The relation of this reaction to the propaganda of the last few years, for and against the Russian governmental and industrial system, is obvious.

19% more of the teachers dislike reading ABOUT

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SOCIALISM. 10% more of the teachers dislike DIRECT REPRESENTATION IN CONGRESS BY INDUSTRIES. 13% more of the teachers give strong positive reactions to the statement NEWS PUBLISHED BY THE AVERAGE PAPER IS BIASED IN FAVOR OF THE EMPLOYERS AND BIG BUSINESS MEN. Against this difference, which is statistically of good reliability, should be balanced the facts that 12% more of the teachers give negative reactions to this same statement, and that the actual total percentage of positive reactions for the student-teachers is 9% greater than for the teachers.

18% more of the student-teachers react strongly against the statement LARGE FORTUNES HAVE BEEN MADE ONLY BY HONESTY, BRAINS, AND HARD WORK. 14% more of the student-teachers accept as true the statement ALL STRIKES SHOULD BE PROHIBITED.

The student-teachers tend to adopt the more liberal or less conservative attitudes toward labor problems. The differences are small, and are not wholly consistent, however.

III-9. Political interest (Table 441). The one item here, MORE INTEREST IN LOCAL POLITICS, receives 14% more positive reactions from the student-teachers. The difference would appear to be a fairly significant one and will doubtless be interpreted as favoring the

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student-teachers.

III-10. International relations (Table 442). Six of the ten items under this heading are not differential. The first difference to be noted is for the item CONQUEST OF WEAK NATIONS BY STRONG NATIONS. This stimulus receives strong negative reactions from 16% more of the teachers, and positive and neutral reactions from 18% more of the student-teachers. Positive reactions would be likely for this one item only as its position in the test booklet under the caption of "proposed reforms" might lead one to believe that it really meant the stopping of CONQUEST OF WEAK NATIONS BY STRONG NATIONS. The difference here, together with the difference for the next two items, WORLD DISARMAMENT and A FEDERATION OF THE WORLD, point to greater interest in good international relations on the part of the teachers; for the latter two items more positive reactions are given by the teachers.

On the other hand, the teachers are more apt to accept as true (the difference is 15%) the statement NO COUNTRY EVER HAD AS GOOD LAWS OR AS GOOD A GOVERNMENT, OR A CULTURE AS GOOD IN ANY WAY AS WE PEOPLE OF THE UNITED STATES HAVE. 18% more of the student-teachers reject this statement as false.

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Although the reactions to the first three items mentioned seem more favorable for the teachers, from the point of view in interest in good international relations, the latter item yields differences which signify a more Chauvinistic attitude and a more smug patriotism on the part of the teachers. It may fairly be said, however, that a majority of each group rejects as false the statement referred to. The percentages marking the statement false are 78 for the student-teachers, and 60 for the teachers.

On the whole, differences between the student-teachers and the teachers on this set of items are not very marked. Six out of ten items are not clearly differential.

III-11. Punishment of crime (Table 445). 14% more of the student-teachers dislike ABOLITION OF CAPITAL PUNISHMENT. This difference is only moderately reliable (919 chances out of 1000). On the other hand, 12% more of the teachers accept as true the statement CRIME CAN BEST BE REDUCED BY PUNISHING EVERY CRIMINAL SEVERELY. The difference, however, is not quite enough to meet the statistical criterion. Its reliability is only 885 chances out of 1000.

It is not clear that the two groups really differ materially in their attitude toward punishment of crime.

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Perhaps the most significant fact is that a majority of each group rejects the statement that CRIME CAN BEST BE REDUCED BY PUNISHING EVERY CRIMINAL SEVERELY.

III-12. Negroes (Table 444). The two items here are not differential. Negative reactions to these two items FAIR TREATMENT FOR COLORED PEOPLE and SOCIAL JUSTICE FOR NEGROES, are almost totally lacking for the student-teachers and negligible for the teachers.

III-13. Schools and teaching, (Table 445). The three stimuli under this topic are not differential.

4. TOWARD VARIOUS OCCUPATIONS

More of the student-teachers like the following occupations: ACTRESS, DANCING TEACHER, DETECTIVE, LIBRARIAN, and TEACHER (Table 446). More of the teachers dislike the following: FARMER, LIBRARIAN, and SOCIAL WORKER.

More of the teachers like the following occupations: DRESSMAKER and RETAIL SALES CLERK. More of the student-teachers dislike the following: MILLINER, MUSICIAN, RETAIL SALES CLERK, and WINDOW TRIMMER.

In terms of the classification by twenty-four women teachers of the thirty occupations listed, it may be said that there are tendencies for the student-teachers to prefer occupations in which the dominant

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activity is mental, in which the major contacts are with people and which are more apt to be considered romantic, and for the teachers to prefer occupations in which the dominant activity is motor, in which the major contacts are with things, and which are more apt to be considered prosaic. The difference between the occupations with regard to romantic or prosaic interest is not pronounced.

5. GENERAL TENDENCIES

Four of the tentative measures of general tendency with regard to attitudes are differential, as between the student-teachers and the teachers (Table 405).

The student-teachers rate higher on range of affective reactions, range of interests in reading, and range of recreational interests.

The teachers rate higher on interest in international relations.

To these differences may be added a smaller difference, indicating that the student-teachers are more interested in social contacts. The reliability of this difference is only 802 chances in 1000, however.

All of these differences are in line with those disclosed by the detailed analysis in the preceding sections, with the exception of the difference on range

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of affective reactions. There is nothing in the preceding analysis to compare with this proposed measure. It may be recalled that this measure corresponds to one used by Pressey (64,65), which he called a measure of affective spread.

6. SUMMARY

The student-teachers are more interested in: (a) sporting news, outdoor recreation, humor, and oral self-expression; (b) social activities, conformity to social usage, social opinion, family relationships (but not children, home or sentiment) and friendship; (c) items suggesting intellectual interest in religion, certain specific social reforms, tolerance of tobacco and smoking by women, liberal attitudes with reference to labor problems, local politics, and a relatively broad conception of patriotism; (d) occupations in which the dominant activity is mental, in which the major contacts are with people, and which are more apt to be considered romantic.

The teachers are more interested in: (a) financial success; (b) executive work; (c) orthodox religious views (slight difference), general social progress (again a slight difference), freedom of opinion, good international relations, and a narrow conception of

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patriotism; (d) occupations in which the dominant activity is motor, in which the major contacts are with things, and which are more apt to be considered prosaic.

The tentative measures of general tendency indicate that the student-teachers have a wider range of affective reactions, of interests in reading, and of recreational interests, that the student-teachers are probably more interested in social contacts, and that the teachers have more interest in international relations.

G. SOCIALIZATION

1. GENERAL

The teachers surpass the student-teachers in average degree of socialization (Table 403). The mean for the student-teachers is -7.97. That for the teachers is -4.39. The student-teachers rate definitely between the teachers and the sophomores in degree of socialization, as here measured.

2. DETAILED ANALYSIS

The student-teachers rate higher than the teachers, i.e., resemble more nearly the "leaders of social

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progress" in their reactions to the sets of items classified by Hart as indicating the following attitudes: indifference toward business success, intellectuality and craving for truth, indifference to religious creeds, and interest in economic justice, as represented by one set of items (Table 447).

The teachers rate higher on the following: indifference to certain miscellaneous interests, indifference toward light reading, insensitiveness to social opinion, lack of sentiment, and interest in economic justice, as represented by a second set of items.

The differences indicated here check very closely with the differences noted in the detailed comparison of the attitudes of these two groups.

H. SUMMARY

1. General. The student-teachers represent a highly selected group of new recruits to the teaching profession, more highly selected and trained than the average of the teachers, but younger and much less experienced.

2. Social and Economic Background. The student-teachers tend in certain ways to have personal histories more like Freyd's socially inclined subjects, and the

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teachers to have personal histories more like Freyd's mechanically inclined subjects. These differences do not hold in every respect, but suggest to a measurable degree an intermediate position for the student-teachers between the sophomores and the teachers.

3. Intelligence. The student-teachers have only a slightly higher mean Alpha score than the teachers. This difference is unreliable, and the teachers rate in any case higher than theoretical considerations would predict.

4. Commonality of response. No reliable difference appears in the reactions to the association test, although the tendency appears to be for the student-teachers to rate higher on commonality of association.

5. Leisure time activities. The student-teachers indulged in more leisure time activities than the teachers, rating in between the teachers and the sophomores in this respect. The student-teachers surpass the teachers chiefly in participation in social activities and attendance at various forms of light entertainment.

6. Attitudes and Interests. The student-teachers tend to rate between the sophomores and the teachers in their attitudes. The student-teachers care somewhat more for the same personal activities and satisfactions as make the greater appeal to the sophomores, except that

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the student-teachers and teachers rate about on a par in tastes for reading and recreation. The student-teachers care somewhat more for family relationships, friendship, and social activities, and are more susceptible to social opinion. The teachers are more interested in orthodox religious views, good international relations, and a narrow conception of patriotism, and are less interested in liberal labor attitudes and certain specific social reforms. The occupations which are more attractive to the student-teachers tend to be rated as involving primarily verbal activity, relationships with people, and romantic interest. The student-teachers show a somewhat wider range of affective reactions than do the teachers.

7. Socialization. The student-teachers rate lower than the teachers on socialization, but higher than the sophomores. Detailed analysis indicates that the student-teachers rate higher than the teachers on indifference toward business success, intellectuality, and indifference to religious creeds, and lower on indifference toward light reading, insensitiveness to social opinion, and lack of sentiment.

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CHAPTER VI. COMPARISON OF YOUNGER TEACHERS WITH OLDER TEACHERS

A. GENERAL

To analyze the differences correlated with age, it seemed desirable to subdivide one or more of the major groups of this investigation, on the basis of age. The age spread of all the major groups is very limited, except for the group of teachers. It was accordingly decided to compare younger and older teachers, rather than younger and older sophomores, younger and older student-teachers, etc.

The division between younger and older teachers was made by finding the median for the entire group of teachers measured, and calling the teachers below the median younger teachers, and the teachers above, older teachers. This resulted in drawing a line between the reported ages 33 and 34. The few teachers who did not report their ages were necessarily excluded from the age comparisons. The mean ages for the younger and older teachers are 27.71 and 40.34, respectively (Table 449).

It may be noted that a difference of four points in total Army Alpha score was found between the younger and older teachers, as will be reported in a later

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section of this chapter. The older teachers surpass the younger to this slight extent, in terms of the intelligence test employed. The difference is reliable but very small. On the other hand, when the group of teachers is sub-divided by intelligence, with the dividing line coming at the median for intelligence, there is only a negligible difference in mean age between the duller and brighter teachers. It may be concluded that the relationship between age and intelligence is so slight that it may be disregarded. The correlation coefficient for age with Army Alpha score, for the group of teachers, is $+.11 \pm .074$. This is very low and very unreliable.

The age difference may likewise be compared with the difference in amount of training. For the younger and older teachers, the percentages of those who have had less than a college training and of those who have earned a college degree are almost exactly equal. When the group of teachers-in-service is sub-divided from this standpoint of training, it is likewise found that there is no significant difference in age between the group not holding degrees and the group holding degrees.

Differences between the younger and older teachers have thus been shown to be due neither to differences in intelligence nor to differences in training. Two

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other possible explanatory factors remain. The first of these is the selective process by which some of those in the younger group of teachers are eliminated, while others remain in the profession. The second is change in the attitudes and interests of teachers as they grow older. It has not been possible in the present research to disentangle these two factors.

Who are the women who teach for a few years and then leave teaching? By what traits of personality and what characteristics of personal history may we know them? The present data do not shed clear light upon these questions, although they certainly have some bearing here.

Many teachers who leave the profession do so through the door of matrimony. Teachers who marry but continue to teach have been definitely excluded from consideration in this study. If we can answer the question, what are the differences between women who marry and women who do not, we shall in large part have answered the question, what are the differences between women who leave teaching and women who continue to teach. We might perhaps expect to find greater social activities, more interest in home and sentiment, although not necessarily in personal family relationships, more interests commonly considered feminine,

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and probably more evidence of extroversion among the teachers who leave teaching for marriage, in contrast to those who do not. Certain of the differences actually found between younger and older teachers may doubtless be explained in such terms. This suggestion will be referred to occasionally throughout the present chapter.

A certain number of teachers leave teaching, of course, for other reasons than marriage. Illness, home duties, release from wage earning by sudden inheritance, etc., may be considered as incidental factors, of far less importance than that of marriage.

On the other hand, for the large group of teachers who remain in teaching for the better part of their lives, the possibility of change in attitudes must be considered. One view is that habits and attitudes are quite finally settled somewhere between the ages of 20 and 30 (compare William James' famous discussion on "Habit"). Another view is that the human organism can and does learn throughout life. With reference to attitudes, this view would suggest that some attitudes are strengthened and deepened, while others are eliminated, during the period of growth from the twenties to the later thirties, and the forties.

The possibility and probability of marriage, rather than marriage as a fact, must be considered here as

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influencing attitudes. The younger teachers (mean age 28) are still of an age at which marriage must loom as a real possibility. Whether it is likely or not that many of the younger teachers will eventually marry, their social attitudes and interests may perhaps be colored unconsciously or consciously by the possibility of marriage. The older teachers, on the other hand, are in most cases past the age at which marriage is likely. For them it is probable that the possibility of marriage has largely disappeared from consciousness and ceased to affect their behavior. It is sometimes said, for example, that there is an unsettled period in the lives of most teachers, during which they conform to the waggish definition of teachers, "a mob of mobile maidens meditating matrimony" (46, p. 253). This period is followed, for those for whom matrimony does not become a reality, either by adoption of a good professional attitude or, at least occasionally, by a souring and hardening of the disposition, it is alleged.

Of course the differences which exist between those teachers who marry and those teachers who do not may be along exactly the same lines as the differences between the earlier and later attitudes of those teachers who remain in the profession. Probably this is measurably

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the case. Some of the differences reported in this chapter may be more easily explained on the first ground, others on the second. Since data are not available for determining the relative weight which must be assigned to these two factors, the question may be left for further investigation.

B. SOCIAL AND ECONOMIC BACKGROUND

1. ECONOMIC AND EDUCATIONAL

No significant difference appears in the education of the fathers of the younger and older teachers (Table 448). On the other hand, 15% more of the mothers of the younger teachers finished high school, while 15% more of the mothers of the older teachers failed to receive at least a high school education.

The mean number of children in the families of the younger teachers is 3.55; the corresponding figure for the families of the older teachers is 4.69 (Table 449). The difference of over one child per family is highly reliable. This difference suggests that the older teachers come from families of lower economic status than the younger teachers.

Satisfactory evidence is lacking to support this conclusion, however, from the answers to the direct

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question regarding the financial circumstances of the family when the subjects were children. No reliable differences appear, although 8% more of the older teachers report that their families were well-to-do.

It cannot be determined from the data whether the younger teachers actually come from families in better financial circumstances than the older teachers, although the differences in number of children per family suggests this possibility. So far as educational background is concerned, the mothers of the younger teachers have a better education, on the average, than the mothers of the older teachers. Such a difference may, of course, reflect primarily a changing attitude toward the education of women during the period when the mothers of the teachers were securing their education.

2. SOCIAL BACKGROUND

13% more of the older teachers report that their family acquaintanceship was not limited to people of the same religious belief. This difference, however, does not quite meet the statistical criterion of reliability.

No significant difference is found with regard

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to whether the subjects' families entertained or were entertained more often.

Differences in social background are not clearly revealed by the questions here reported upon.

3. FAMILY RELATIONSHIPS

More of the younger teachers were oldest children or only children, and more of the older teachers were youngest children or in between youngest and oldest.

No significant differences appear with regard to the treatment the subject received as a child in comparison with brothers and sisters. No significant difference appears with regard to the parent who was liked better, but more of the younger teachers report that the mother exerted a greater influence upon them. More of the older teachers report that both parents influenced them equally. More of the younger teachers report the mother as dominant in the family and more of the older teachers report the father as dominant.

The evidence points to the father as more often dominant in the families of the older teachers. The mother appears to have been more often dominant in the families and to have had more influence in the lives of the younger teachers.

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4. SATISFACTION WITH EARLY ENVIRONMENT

13% more of the younger teachers report that they had a desire to run away from home and 8% more of them report that they actually did run away. The latter difference is not reliable.

23% more of the older teachers report that they would desire a change in their home and other environmental conditions if they had their childhood to live over again. 16% more of the older teachers would desire a wealthier environment, but no significant difference appears for the numbers desiring more cheerful conditions, and 19% more of the younger teachers would desire more refined playmates.

The evidence is not clear that there were decided differences in respect to the satisfaction which the younger and older teachers felt as children with their homes. The differences which are noted may possibly be due to differences in present standards rather than to actual differences in childhood conditions.

5. SUMMARY

The mothers of the younger teachers had a better educational background than the mothers of the teachers. It is possible that the economic status of the families of the younger teachers was better than that of the

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families of the older teachers, but the only evidence for this is the average difference of one child more per family for the older teachers. No significant difference appears with regard to social adaptation. More of the younger teachers were older children or only children, and more of the older teachers were youngest children or in between youngest and oldest. More of the younger teachers report the mother as dominant in the family and as exercising the greater influence upon them. Although more of the older teachers report desire for change in early environment, the differences here are not altogether uniform in direction. It cannot safely be concluded that the older teachers came from less cheerful homes, although there are indications in this direction.

The differences in personal histories noted here do not correspond to any significant degree with the differences between the socially and the mechanically inclined, as reported by Freyd. One or two differences noted may be due to change in social standards during the period when the teachers were children, while others may be due to differences in present standards and not to differences in actual childhood conditions. Explanation of differences in attitudes between younger and older teachers will not find a firm basis in the

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personal history differences between these groups.

C. INTELLIGENCE

Although the mean scores for the younger and older teachers on Army Alpha do not differ by a large amount, the difference obtained is statistically of high reliability (Table 449). The means are 142.23 for the younger teachers, and 146.59 for the older.

It is interesting to note that the older teachers who are attending university classes rate slightly above the younger teachers. There is no guarantee from this fact that the older teachers of the city as a whole rate above the younger teachers of the city in intelligence, since it may be that only the brighter teachers among those more mature tend to come to the University for work.

At the same time, an average difference of four points on the Army Alpha scale, however stable it may be, is inadequate to explain differences of any appreciable extent in other respects. The difference on Army Alpha score between the groups of duller and brighter teachers later compared, is almost ten times as great as this difference. Although the mean scores reported indicate that the older teachers rate as well in intelligence as the younger, they do not indicate a second basis, other than that of age, for interpreting

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the differences found between the younger and older teachers. As earlier noted, the correlation between age and Army Alpha score, for the entire group of teachers, is + .11 ± .077, a correlation of only negligible amount.

D. COMMONALITY OF RESPONSE

The difference between the mean scores of the younger and older teachers on commonality of association is small, and statistically unreliable (Table 449). The means are 29.85 for the younger teachers and 32.05 for the older teachers. In so far as this is an adequate measure of extroversion, this measure indicates that the older teachers are as extroverted as the younger.

E. LEISURE TIME ACTIVITIES

1. THROW TOTAL ACTIVITY SCORE

A very significant difference appears between the mean number of leisure time activities reported by the younger teachers, and the mean number reported by the older (Table 449). The means are 87.47 for the younger group, and 60.79 for the older group. In terms of average number of activities per week,

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these figures mean almost four and a half activities for the younger teachers, and only three for the older.

The correlation between age and grow total activity score has been determined. The coefficient is $-.56 \pm .054$. There is a rather striking negative correlation between age and participation in leisure time activities, for the teachers who served as subjects for this research.

This negative relationship probably cannot be attributed wholly to the changes brought with age. Elimination of teachers by marriage may take primarily those of wide interests and many activities of the kinds mentioned here. It is possible that the older teachers studying at the University are of narrower interests than the older teachers who do not take University work. It cannot be urged, however, that the younger teachers have more time for the activities listed here, since the members of both groups are spending more or less of their leisure time in study. The differences in interests and activities which come with increased age and through selection are probably the major differences here revealed.

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2. TROW PARTIAL SCORES

a. Trow Partial 1. Uplift Activities

The younger and older teachers have almost identical mean scores for uplift activities (Table 449). The average number of participations for the younger teachers is just under 26, while that for the older is just over 25. More of the older teachers, however, failed to attend any church services, and more of them failed to pay any visits to museums or art galleries (Table 450).

b. Trow Partial 2. Social Activities

There are reliable differences for this score and the remaining Trow partial scores, to indicate that the younger teachers surpass the older in participation (Table 449). The means for social activities are 20 and 14. More of the older teachers attended no dances and had no sessions with indoor games, cards, checkers, etc. (Table 450). More of the younger teachers, on the other hand, attended no social meetings, clubs, etc.

c. Trow Partial 3. Light Entertainment

The mean for the younger teachers is 23, and that

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for the older is 16 (Table 449). More of the older teachers failed to go to any comic operas, vaudeville shows, moving picture entertainments, or athletic contests (Table 450).

d. Trow Partial 4. Physical Exercise

The mean for the younger teachers is 10, and that for the older is 6, for this type of activity (Table 449). More of the older teachers failed to play any outdoor or gymnasium games or to take any regular exercise, with the possible exception of walks in the country (Table 450). Not much can be said for the younger teachers, however, since the average number of participations by them falls far below the number which common sense would dictate as necessary for good health.

e. Trow Partial 5. Non-professional Books Read

The younger teachers report an average of 10 books read during the twenty weeks, whild the older teachers report only 5 (Table 449). The difference is, of course, highly reliable. One book every two weeks is probably a creditable achievement for teachers who are taking University work. The fact that the older teachers read only about half as many non-

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professional books does not, however, indicate that they are doing more in the way of other leisure time activities to compensate, nor is it correlated with any lower degree of intelligence on the part of the older teachers. The older teachers are at least as intelligent as the younger.

F. ATTITUDES AND INTERESTS

1. ATTITUDES TOWARD VARIOUS PERSONAL ACTIVITIES AND SATISFACTIONS

(Tables 451-464)

I-1. Success in work (Table 451). The single item under this heading is not differential.

I-2. Financial success (Table 452). Two items listed here, which appear in the Hornell Hart test under the heading "things to read or study," are differential. These are ABOUT BANKING and HOW TO BUY AND SELL STOCKS AND BONDS. Most of the older teachers like these items and more of the younger teachers dislike them. The differences especially for the percentages disliking the items, are significantly large. Likewise, more of the younger teachers give neutral or negative reactions to the item WIN OUT IN THE FINANCIAL WORLD.

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Evidently the older teachers care more about financial success. Doubtless, more of them have saved enough money to make investments, and might naturally be expected to show an interest in reading matter on investments. It is interesting, however, that the general stimulus WIN OUT IN THE FINANCIAL WORLD, which seems to represent ambition rather than merely a reflection of present circumstances, likewise receives reactions revealing greater interest on the part of the older teachers. It is evident that financial success, whether because of a change in attitude or not, means more to the older teachers than to the younger teachers.

I-3. Uncomfortable or unpleasant personal experiences (Table 453). There are no significant differences for the items in this list.

I-4. Sport and outdoor recreations (Table 454). Three outdoor sports are liked by more of the younger teachers. These are PLAYING TENNIS, SWIMMING, and PLAYING GOLF. It is interesting, however, to note that in contrast, more of the younger teachers dislike reading SPORTING NEWS and BASEBALL NEWS. The younger teachers care more for physical exercise as a form of recreation, and in more cases dislike getting their sport vicariously through the newspapers.

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Two exceptions to this statement must be noted. A not very reliable difference indicates that more of the older teachers dislike SPORTING PAGES. The groups of subjects whose reactions to the stimuli SPORTING PAGES and SPORTING NEWS are reported are not identical. Second, more of the younger teachers dislike SWIMMING, although the difference in proportion is not so great as that by which the number of younger teachers who like SWIMMING exceeds the number of older teachers. The older teachers are more neutral toward SWIMMING; the younger teachers have perhaps tried SWIMMING more recently and are either for or against it.

On the whole, the younger teachers, as might be expected, are more interested in those forms of recreation which involve physical exercise, and care less for the vicarious participation in sport through the newspaper SPORTING NEWS.

I-5. High grade reading and other leisure time activities (Table 455). The differences within this group of items are, in the main, not large. More of the older teachers like BOOKS THAT HAVE STOOD THE TEST OF TIME, like strongly LYRIC POETRY, like LITERARY DIGEST, and like TRAVEL MOVIES. The one large difference among these is that of 58% for TRAVEL MOVIES. More of

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the younger teachers give the strongest positive reaction to THE CLASSICS and BOOK REVIEWS, and more of them dislike LYRIC POETRY.

In the light of the differences found between the sophomores and teachers, it is surprising that more of the younger teachers should dislike LYRIC POETRY. The actual percentage of younger teachers disliking LYRIC POETRY is small, however - 18%, contrasted with 0% of the older teachers.

Age does not appear to make so great a difference in taste for reading matter, as might have been expected. Some of the items listed as high grade reading are liked by more of the older teachers, while others are liked by more of the younger teachers. The one outstanding difference in this group of items is for TRAVEL MOVIES, where 38% more of the older teachers show an interest. TRAVEL MOVIES are less exciting than the ordinary motion picture drama. If one becomes more interested in this tamer sort of entertainment as one grows older, it is doubtless to be expected.

I-6. Popular reading and other leisure time activities (Table 456). Only one of the types of reading matter shows a difference of even fair reliability. The AMERICAN MAGAZINE, as it appears in the Likes-Dislikes Questionnaire, is liked by 14% more

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of the older teachers than of the younger teachers. Chances that this difference is reliable are 900 in 1000, that is, 9 in 10, thus barely meeting the minimum criterion used throughout this research. In this particular instance, the difference is probably unreliable, for the same item appears in the Hornell Hart Test and receives positive reactions from 8% more of the younger teachers than of the older. The net conclusion is that none of the types of reading matter listed as popular is really differential.

COWBOY MOVIES are disliked by 16% more of the younger teachers than of the older teachers. This difference is not of very great reliability, 919 chances out of 1000.

The difference regarding COWBOY MOVIES is parallel to the difference which indicates that more of the sophomores than of the teachers dislike this item. Perhaps the younger teachers, like the sophomores, see more COWBOY MOVIES, and hence are more inclined to reject their false sentiment.

I-7. Low grade reading and other leisure time activities (Table 457). None of the three items listed here is differential.

I-8. Humor (Table 458). Curiously enough, "LIFE" and "JUDGE" show differences in opposite directions.

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11% more of the younger teachers dislike "LIFE" and 12% more of the older teachers dislike "JUDGE". The two magazines are not so very dissimilar, however, that one is inclined to accept these differences as very reliable. More reliable, doubtless, is the 22% difference in strong positive reactions to HUMOROUS BOOKS. This difference indicates greater interest in HUMOROUS BOOKS for the younger teachers.

It is not certain from the evidence that the younger teachers are more interested than the older teachers in humor, although this condition seems more likely to be the case than the opposite one.

I-9. General curiosity (Table 459). More of the older teachers give strong positive reactions to MEET PEOPLE WHO TALK INTERESTINGLY, and more of them like BELONG TO A CLUB FOR STUDY. Two other differences of small degree under this heading harmonize with those noted.

The older teachers apparently show greater general curiosity than the younger teachers.

I-10. Scientific interest (Table 460). The differences here are not decisive. Whereas 16% more of the younger teachers give strong positive reactions to DO RESEARCH WORK, 12% more of the younger teachers give negative reactions to the same item. Neutrality

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is more characteristic of the older teachers. More of the older teachers like reading ABOUT SCIENCE. All of these differences are of only moderate reliability, with the exception of more neutral reactions from the older teachers to DO RESEARCH WORK.

The evidence is not clear that one group exceeds the other in interest in SCIENCE as such, although there is indication that the younger teachers have more decided attitudes toward DO RESEARCH WORK, either for or against it.

I-11. Manual and mechanical interests (Table 461). Two out of the five items under this heading are differential. TRY EXPERIMENTS receives strong positive reactions from 14% more of the older teachers. The difference is moderately reliable. POPULAR MECHANICS is liked by 25% more of the older teachers. Whether these differences really mean that more of the older teachers like to putter with mechanical matters or not, is not evident. WORKING WITH YOUR HANDS is not a differential item. On the whole, doubtless the older teachers are somewhat more interested in mechanical ma matters than the younger teachers.

I-12. Music (Table 462). 15% more of the younger teachers like strongly HEAR SYMPHONIES. This is the only difference noted under this heading. Age apparently is not correlated positively with musical appreciation, for

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the teachers.

I-13. Oral self-expression (Table 463). More of the younger teachers dislike ARGUMENTS, but more of them like ORGANIZING A PLAY. Both of these differences are large and of high reliability. A difference of less reliability appears for the item MAKING A SPEECH, which is disliked by more of the older teachers.

Possibly the younger teachers are somewhat freer in public expression, but the older teachers are less averse to ARGUMENTS. It might be expected that the younger teachers would care more for ORGANIZING A PLAY.

I-14. Rural or urban residence (Table 464). 14% more of the older teachers like LIVING ON A FARM. The percentages here are 24 for the younger teachers and 38 for the older teachers. While the other differences are not large enough to be significant, it may be noted that the older teachers apparently have stronger attitudes with regard to where they live than the younger teachers. 6% more of the older teachers dislike LIVING ON A FARM, 6% more of them like LIVING IN THE CITY, and 8% more of them dislike LIVING IN THE CITY. A neutral reaction with regard to where they live is more characteristic of the younger teachers.

The one difference of moderate reliability, LIVING ON A FARM, suggests that more of the older teachers probably come from a rural environment. The fact that

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more positive and also more negative reactions are given by the older teachers to these two stimuli suggests that as one grows older it becomes more vital to him where he lives.

2. ATTITUDES TOWARD VARIOUS PEOPLE AND RELATIONSHIPS WITH PEOPLE

(Tables 465 - 478)

II-1. Managing people, leadership (Table 465). 21% more of the younger teachers like strongly the item BE A LEADER. On the other hand, 16% more of the older teachers like, and 27% more of the younger teachers dislike PEOPLE WHO TEND TO ASSUME LEADERSHIP. These are the only significant differences under this caption.

It appears that leadership is of special interest to the younger teachers, as compared with the older teachers. This is shown in the strong positive reactions to BE A LEADER and in the negative reactions to PEOPLE WHO TEND TO ASSUME LEADERSHIP. Presumably PEOPLE WHO TEND TO ASSUME LEADERSHIP are disliked because the subject himself desires to BE A LEADER.

II-2. Activities in which social contacts are important (Table 466). BRIDGE and DANCING are liked by 25% and 35% more, respectively, of the younger

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teachers. CHECKERS are disliked by 16% more of the older teachers but the younger teachers surpass the older teachers in percentage of neutral reactions rather than in liking the game of CHECKERS. Of less reliability are the 11% differences which indicate that more of the older teachers like MINGLING WITH PEOPLE, and the 14% differences which indicate that more of the older teachers like PICNICS and CONVENTIONS.

The younger teachers are more interested in the activities BRIDGE and DANCING, and are less negatively inclined toward CHECKERS. On the other hand, there is some evidence that PICNICS, CONVENTIONS, and the general activity of MINGLING WITH PEOPLE, are more attractive to the older teachers. BRIDGE and DANCING have both acquired almost universal popularity of comparatively recent years, while PICNICS and perhaps CHECKERS are of an older fashion. CONVENTIONS would naturally be expected to be more attractive to the older group.

II-3. Activities in which social contacts are at a minimum (Table 467). 24% more of the older teachers like BEING LEFT TO YOURSELF, and 14% more of the younger teachers dislike this item. The absolute percentages here are interesting. BEING LEFT TO YOURSELF is liked by 35% of the younger teachers and 59% of the older teachers, and disliked by 30% of the younger teachers and 16% of the older teachers. Perhaps teachers

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are not left alone enough, and are accordingly especially appreciative of the occasional privilege of solitude.

II-4. Conformity to social usage (Table 468). 21% more of the older teachers like strongly DO THE PROPER THING. This large difference is highly reliable. Of almost equal reliability, however, is a difference in the reactions to ABOUT WHAT IS PROPER TO WEAR. 25% more of the younger teachers like strongly reading ABOUT WHAT IS PROPER TO WEAR, while 16% more of the older teachers are neutral or negative to this stimulus. 14% more of the younger teachers dislike strongly INTRODUCE A PERSON WHOSE NAME YOU HAVE FORGOTTEN. Propriety in the abstract (DO THE PROPER THING) gets far more strong positive reactions from the older group. Propriety in the concrete form of reading ABOUT WHAT IS PROPER TO WEAR and remembering people's names when you introduce them, gets almost equally strong positive reactions from the younger group.

II-5. Susceptibility to social opinion (Table 469). 14% more of the older teachers dislike strongly NOT GET CREDIT FOR WHAT YOU DO. This difference is of only moderate reliability. 18% more of the younger teachers dislike strongly BE CUT BY AN ACQUAINTANCE, and 12% more of the younger teachers dislike strongly BE GOSSIPED ABOUT. The last mentioned difference is just barely below the minimum reliability for tentative

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acceptance (898 chances in 1000).

Perhaps the older teachers care more about their own recognition for work done, but the younger teachers evidently care more for what their friends think about them. The various items here touch different complexes, even though they are grouped under the same general heading.

II-6. Family relationships (general) (Table 470). A single item in this group is thoroughly differential. 32% more of the younger teachers like strongly HONOR HONORING OF PARENTS BY CHILDREN.

The younger teachers perhaps are closer to their parents, and doubtless in more cases have living parents. The reaction here is only to an impersonal item, but personal considerations doubtless influence the reaction. These differences must be compared with those indicated in the following section.

II-7. Family relationships (personal) (Table 471). 20% more of the younger teachers give strong positive reactions to LOYALTY TO ONE'S PARENTS. The difference is significant. 12% more of the younger teachers give strong negative reactions to RUDENESS TO ONE'S FATHER, but this difference is not of good reliability. GO WALKING WITH YOUR FATHER is liked by 28% more of the older teachers, on the other hand, and disliked by 14%

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more of the younger teachers. These differences are of excellent reliability. ATTEND YOUR FAMILY REUNION is liked by 11% more of the older teachers but the difference is not reliable.

Reliable differences here, plus the one reliable difference for the section above, indicate that in the abstract LOYALTY TO ONE'S PARENTS is considered more important by the younger teachers, but that in the concrete instance of GO WALKING WITH ONE'S FATHER, it is the older teachers who care more strongly.

II-8. Children (Table 472). 92% of the younger teachers and 100% of the older teachers report that they like children. The difference is not significant. On the other hand, this slight difference of 8% is in the same direction as the remaining differences for this group of items. 14% more of the older teachers like strongly PLAY WITH CHILDREN, while 12% more of the younger teachers are neutral to, or dislike, PLAY WITH CHILDREN. These differences again are not quite great enough for statistical reliability. HOW TO TRAIN CHILDREN receives 22% more positive reactions from the older teachers; and 21% more neutral and negative reactions from the younger teachers. ABOUT THE PROPER FEEDING OF CHILDREN receives 21% more positive reactions from the older teachers, and 9% more negative reactions from the younger teachers. These differences

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are of good reliability.

The evidence here all points in the same direction, to greater interest in children, in playing with them, and in reading about training and feeding them, on the part of the older teachers. If this means that teachers become more interested in children as they grow older, all is well, but it is unfortunate if it means that the younger group of teachers are not particularly interested in children. The first hypothesis is more probable, in the light of the complete reactions of the younger teachers.

II-9. Sentiment (Table 473). SEE CHILDREN LEFT MOTHERLESS is the only really significant item here. 20% more of the older teachers give strong negative reactions to this item. 13% more of the older teachers likewise like VERY OLD PEOPLE, and 9% more of the older teachers dislike strongly SEE A BIG BOY PICK ON A LITTLE FELLOW. These last two differences are not of good reliability.

The differences for this group point to more sentimentality on the part of the older teachers.

II-10. Home (Table 474). THE LADIES HOME JOURNAL is liked by 27% more of the younger teachers. This magazine may be more attractive to them because it is related to home making, or it may be that its romantic

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stories, special features, etc., are more attractive to the younger teachers. MAKE IMPROVEMENTS IN YOUR HOME is not clearly differential. 9% more of the older teachers give a strong positive reaction to this item but the difference is not reliable.

II-11. Friendship (Table 475). None of the items in this group gives a difference which is great enough to be statistically reliable. 14% more of the younger teachers give strong negative reactions to BE LONELY and 12% more of them give negative reactions to A FALSE FRIEND. These differences are not of reliability sufficient to justify generalizing upon them.

The evidence is inconclusive for this group of items, but seems to point toward somewhat greater interest in friendship as such on the part of the younger teachers.

II-12. Persons liked or disliked because of their physical traits (Table 476). Most of the reactions of the older teachers to FAT MEN are neutral. It follows that FAT MEN are liked by more of the younger teachers and also disliked by more of this group. The difference in dislike is the more pronounced, amounting to 35%. For the other items in this group, likewise, the younger teachers give a greater number of negative reactions. FAT WOMEN are disliked by 70% of the younger teachers

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and only 24% of the older teachers. Cross-eyed people are disliked by 51% of the younger teachers and 24% of the older teachers.

Age evidently has much to do with attitudes here. Tolerance for people who may be unattractive because of size or physical defect is much greater among the older teachers.

II-13. Persons liked or disliked because of their emotional or behavior traits (Table 477). 13% more of the older teachers like PEOPLE WHO ARE SLOW IN MAKING DECISIONS. The difference is reliable, although the actual numbers involved are small, 3% for the younger teachers, and 16% for the older teachers. 11% more of the older teachers like or are neutral to A POOR LOSER, and 20% more of the younger teachers dislike strongly this item. Five other items in this group do not show significant differences.

The older teachers may themselves be slow in making decisions, hence tend to like PEOPLE WHO ARE SLOW IN MAKING DECISIONS. On the other hand, A POOR LOSER is disliked strongly by more of the younger teachers, more of whom have probably come recently from schools and colleges where sports and interscholastic rivalry were regarded as important. The reader may decide for himself whether he rates the younger teachers or the older

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teachers higher, on the strength of their reactions to A POOR LOSER.

II-14. Persons liked or disliked because of their intellectual traits (Table 478). CONSERVATIVE PEOPLE, PEOPLE WITH OPINIONS OPPOSITE TO YOUR OWN and PEOPLE MORE INTELLIGENT THAN YOU are all liked by more of the older teachers. The actual differences are 27%, 21%, and 13%, respectively, and the first two of these items are of excellent reliability.

The older teachers are doubtless more tolerant of persons who might be disliked because of the intellectual traits mentioned. CONSERVATIVE PEOPLE one might expect to be liked by more of the older, and doubtless more conservative, teachers. It is perhaps well, also, for the older teachers to have learned to respect people with opinions opposite to their own, and those persons who may be intellectually their superiors.

3. ATTITUDES TOWARD VARIOUS SOCIAL, MORAL, AND RELIGIOUS PROBLEMS

(Tables 479-491)

III-1. Religion (Table 479). A considerable number of the items listed under religion show significant differences, and most of the remainder show differences with reliabilities just slightly below that required for statistical assurance.

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18% more of the younger teachers give strong positive reactions to the SPIRIT OF UNIVERSAL BROTHERHOOD. This difference is of fair reliability. 12% more of the younger teachers like DISCUSS RELIGION, a difference of not quite so good reliability (871 chances in 1000), and 8% of the younger teachers also dislike DISCUSS RELIGION. This means that the older teachers are more neutral toward the discussion of religion.

More of the older teachers give strong positive reactions to the statement, A CONSCIOUS PURPOSE, GREATER THAN THE PURPOSES OF MEN, WORKS FOR RIGHTEOUSNESS IN THE UNIVERSE, to WORK HARMONY WITH THE DIVINE PURPOSE, and to COMMUNE WITH THE GREAT SPIRIT. These differences, amounting to 19 and 20%, are of good reliability. Differences as great, and in the same direction, obtain for the items BY MEANS OF PRAYER ONE MAY, IN TIME OF NEED, GET HELP FROM SPIRITUAL POWERS OUTSIDE HIMSELF, THE BIBLE, and APPLICATION OF CHRISTIAN IDEALS TO MODERN INDUSTRY. More of the older teachers give strong positive reactions to each of these items. A less reliable difference amounting to 14% (831 chances in 1000), adds the item MORE USE OF PRAYER to the foregoing list.

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only one item shows a difference of 10% or more to indicate that the younger teachers are more concerned about religious matters than are the older. 18% more of the younger teachers give strong negative reactions to FEEL THAT GOD HAS FORGOTTEN YOU.

The evidence seems clear that the older teachers are more orthodox in their reactions to these religious stimuli. The younger teachers, however, appear not to be less concerned about religion as such, since more of them give positive or strong positive reactions to THE SPIRIT OF UNIVERSAL BROTHERHOOD, and DISCUSS RELIGION, and they rate at least even with the older teachers in interest in reading ABOUT DIFFERENT RELIGIONS. The younger teachers also give more strong negative reactions to FEEL THAT GOD HAS FORGOTTEN YOU. Interest in religion, then, is probably as characteristic of the younger teachers as of the older teachers, but interest in orthodox religious viewpoints is more characteristic of the older teachers.

The item, RELIGIOUS PEOPLE, receives more negative reactions from the younger teachers. The gross percentages are not large, 19% for the younger teachers and 5% for the older teachers, but the difference is statistically reliable. This difference does not necessarily mean that more of the younger teachers dislike religion, but doubtless rather means that the term

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RELIGIOUS PEOPLE has a more unfavorable connotation for the younger group of teachers.

III-2. Ethical values (Table 480). No significant differences appear for the two items listed here.

III-3. General interest in social progress (Table 481). The older teachers are more interested in the two items WORK FOR SOCIAL JUSTICE and PROTEST AGAINST SOCIAL INJUSTICE. 20% more of them like the former items and 22% more like the latter. 15% more of the younger teachers dislike the latter item. The actual percentages here are small, 21% for the younger teachers and 6% for the older. All these differences are of good reliability.

The reactions to the items in this list indicate greater general interest in social progress on the part of the older teachers. Whether this interest is acquired during the period of service as a teacher, or whether the difference is a matter of selection is, of course, not evident from these data.

III-4. Specific social reforms or means to reform (Table 482). 12% more of the younger teachers give strong positive reactions to ABOLITION OF CHILD LABOR LAWS. 20% more of the older teachers give strong positive reactions to MILK AND ICE FUNDS FOR BABIES. These are the only differences of good reliability.

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A difference with less satisfactory reliability (853 chances in 1000) appears for the statement KINDHEARTEDNESS IS WHAT ONE NEEDS MOST IN ORDER TO DO GOOD IN THE UNIVERSE. 12% more of the younger teachers mark this statement as true.

ABOLITION OF CHILD LABOR EVILS is perhaps to be regarded as a definite reform, while MILK AND ICE FUNDS FOR BABIES, in contrast, may be thought of as merely an ameliorative measure. From this standpoint, the younger teachers seem to attach more weight to fundamental reforms, the older teachers to immediate relief. The difference with regard to the statement quoted is interesting, although not statistically reliable. To the writer, acceptance of the statement involves a rather naive attitude toward the world. Perhaps more of the older teachers have come to feel that kindheartedness is not the greatest essential for doing good.

III-5. Prohibitory legislation (Table 483). More of the older teachers like REPRESS GAMBLING. None of the older teachers dislike REPRESS GAMBLING, but 15% of the younger teachers give this reaction. 18% of each group like PROHIBIT SMOKING TOBACCO. On the other hand, 41% of the younger teachers and only 18% of the older teachers dislike PROHIBIT SMOKING

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TOBACCO. The differences indicated for these two items are of excellent reliability.

The younger teachers are evidently more tolerant with regard to both of the matters in question. Although at least 31% of each group like REPRESS GAMBLING, the group differences are considerable. The favored reaction for the older teachers with reference to prohibition of smoking tobacco is a neutral one, while as many of the younger teachers dislike this proposed prohibition as are neutral to it.

III-6. Freedom of speech and opinion (Table 484). The reactions to the first two items under this heading indicate that the older teachers are more interested in freedom of speech and opinion. 24% more of the older teachers give negative reactions to REPRESSION OF FREE SPEECH. 14% more of the older teachers give positive reactions to FREER DISCUSSION OF SOCIAL AND POLITICAL QUESTIONS. The first difference indicated is highly reliable, while the second just barely misses high enough reliability to satisfy the statistical criterion (898 chances in 1000). The two other items included under this heading are not clearly differential.

It is surprising that the older teachers should rate above the younger in interest in freedom of speech and opinion, in view of the greater conservatism

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usually attributed to older people. Perhaps service as a teacher makes for greater interest in free thought and expression.

III-7. Feminine propriety (Table 485). 27% more of the older teachers dislike SMOKING BY WOMEN. The actual figures are 58% for the younger and 85% for the older teachers. 37% of the younger teachers, in contrast to 14% of the older teachers, are neutral to this item. These differences are highly reliable. It may be noted, in passing, that none of the older teachers likes SMOKING BY WOMEN, while 6% of the younger teachers do.

The other stimulus under this heading, SEE WOMEN GO INTO PROFESSIONS LIKE MEDICINE AND LAW, is not clearly differential. 11% more of the younger teachers give strong positive reactions to it. The reliability of this difference is not great (only 877 chances in 1000).

The younger teachers are more inclined to be tolerant toward SMOKING BY WOMEN, and to some degree are more interested in SEE WOMEN GO INTO PROFESSIONS LIKE MEDICINE AND LAW. It is natural, no doubt, for the younger teachers to adopt the less conservative attitude with regard to these matters.

III-8. Problems of capital and labor (Table 486)

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Only a few items in this rather long list reveal differences of 10% or more. These all point in the same direction. The differences which meet the statistical criterion may be mentioned first. 18% more of the older teachers like reading ABOUT REVOLUTION BY THE WORKERS. 15% fewer of them dislike UNIONIZE INDUSTRY. 11% more of them reject the statement LARGE FORTUNES HAVE BEEN MADE ONLY BY HONESTY, BRAINS, and HARD WORK. The total negative reactions to this statement are 89% for the younger teachers and 100% for the older teachers.

The differences amounting to 10% or more, but with reliability less than 900 chances in 1000, are as follows.

12% more of the younger teachers dislike LABOR AND SOCIALIST DAILIES. 10% more of them dislike reading ABOUT REVOLUTION BY THE WORKERS. 14% fewer of them dislike SOLDIERS TO STOP STRIKES.

All of these differences point toward the fact that sympathy with labor viewpoints is more characteristic of the older teachers. It has been noted before that apathy is characteristic of the teacher group as of the other groups of this investigation, with regard to problems of capital and labor. This is less marked for the older teachers than it is for the

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younger teachers. Whether the younger teachers or the older teachers would be rated as having the more desirable attitudes herein, is a matter of opinion (but see section on socialization later in this chapter).

III-9. Political interest (Table 488). There is no significant difference for the one item which appears here.

III-10. International relations (Table 488). 20% more of the older teachers like WORLD DISARMAMENT, while 12% more of the younger teachers dislike this item. The actual percentages disliking WORLD DISARMAMENT are both small, 13% for the younger teachers; 6% for the older. 14% more of the older teachers like A FEDERATION OF THE WORLD. This difference is not quite reliable enough to meet the statistical criterion (881 chances in 1000).

Each of the four statements which conclude the list of items under this heading reveals a significant difference, but for two of these the older teachers adopt a more Chauvinistic attitude, and for two of them the younger teachers give the narrower reactions. 28% more of the older teachers accept as true the statement, NO COUNTRY EVER HAD AS GOOD LAWS, OR AS GOOD A GOVERNMENT, OR A CULTURE AS GOOD IN ANY WAY AS WE PEOPLE OF THE UNITED

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STATES HAVE. 25% more of the younger teachers reject this statement. 12% more of the older teachers give strong negative reactions to the statement THE UNITED STATES HAS AT TIMES BEEN TYRANNICAL TOWARD WEAKER NATIONS. The force of this finding is somewhat weakened by the fact that when all the negative reactions are taken into account, there is a slightly greater proportion of negative reactions for the younger teachers. In contrast to the differences just mentioned, 15% more of the older teachers give strong negative reactions to the statement THE JAPANESE ARE AN INFERIOR BUT DANGEROUS PEOPLE WHO NEED TO BE TAUGHT THAT WE ARE MASTERS OF THE PACIFIC OCEAN. Likewise 14% more of the older teachers react negatively to the statement OUR COUNTRY, RIGHT OR WRONG! IS A NOBLE SENTIMENT.

So far as general interest in good international relations is concerned, the older teachers rank above the younger. On the other hand, twice as many of the older teachers as of the younger display faith in the supremacy of United States laws, government, and culture. Interest in good international relations and belief in the superior qualities of one's own country are not incompatible, however, and more of the older teachers reject strongly the virulent attack upon the Japanese

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made in one statement and the claim for respect to the sentiment, "My country, right or wrong," made in another statement.

III-11. Punishment of crime (Table 489). 20% more of the older teachers like ABOLITION OF CAPITAL PUNISHMENT. 15% more of the younger teachers dislike capital punishment. The other item in this group is not clearly differential, although the minor differences noted point likewise to a stronger belief by the younger teachers that severe punishment for crime is needed.

Possibly the older teachers are the more sentimental with regard to punishment of crime, although it is also possible that they have come to feel more keenly through experience that severe punishment is not a satisfactory or complete treatment for crime.

III-12. Negroes (Table 490). 16% more of the older teachers like FAIR TREATMENT FOR COLORED PEOPLE. 24% more of them like SOCIAL JUSTICE FOR NEGROES. The actual figures for this second item are 50% for the younger teachers and 74% for the older. There are no negative reactions for the first of these two items for either the younger or older teachers, and only 9% negative reactions by the younger teachers for the second item.

It is interesting to note that more of the older teachers adopt the positive attitude toward these items.

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III-13. Schools and teaching (Table 491). 15% more of the younger teachers give strong positive reactions to BETTER PAY FOR SCHOOL TEACHERS. This is the only significant difference under this heading.

It is perhaps to the credit of the older teachers that they put somewhat less stress upon better pay than do the younger teachers. The younger teachers are unanimous, the older teachers almost so, in their desire for better pay, and the difference appears in the stress laid upon this item.

4. TOWARD VARIOUS OCCUPATIONS

More of the younger teachers like the following occupations: ACTRESS, DANCING TEACHER, MUSICIAN, and NEWSPAPER REPORTER (Table 492). More of the older teachers dislike the following: ACTRESS and DANCING TEACHER.

More of the older teachers like the following occupations: COOK, FARMER, MILLINER, RETAIL SALES CLERK, and STENOGRAPHER. More of the younger teachers dislike the following: FARMER, MISSIONARY, NOVELIST, PRIVATE SECRETARY(BUSINESS), RETAIL SALES CLERK, and STENOGRAPHER.

The most significant tendencies revealed by a comparison of these lists of occupations with the

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classification assigned them by twenty-four women teachers, are for the younger teachers to prefer the more romantic occupations and for the older teachers to prefer the more prosaic. There are slight tendencies for the older teachers to prefer occupations in which the major contacts are with things, and for the younger teachers to prefer occupations in which the major contacts are with people or words or books. No clear difference appears with regard to whether the dominant activity is motor or mental.

8. GENERAL TENDENCIES

Only three of the tentative measures of general tendency in attitudes reveal significant differences (Table 449).

The younger teachers rate higher than the older on range of recreational interests. This difference is in line with the findings for the Trow questionnaire on leisure time activities.

The older teachers rate higher on range of tolerance for people of various types, and for orthodoxy in religion.

The difference in range of tolerance suggests that the older teachers have learned greater tolerance. Both of these last mentioned differences are in agreement with the general findings for the detailed analysis of

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attitudes earlier reported.

6. SUMMARY

The younger teachers are more interested than the older in: (a) physical exercise; (b) leadership; (c) tolerance of gambling, tobacco, smoking by women, and severe punishment of crime; (d) occupations which are considered romantic, and to some extent, occupations in which the major contacts are with people or with words or books.

The older teachers are more interested in: (a) financial success, reading about sports, general curiosity (to a slight degree), living on a farm, and place of residence in general; (b) children, sentiment, and tolerance of people unattractive because of physical make-up or objectionable because of conservatism, progressive tendencies, or views opposite to their own; (c) orthodox views in religion (younger and older teachers are equally interested in religion as such), social progress, repression of gambling and tobacco, freedom of speech and opinion, labor viewpoints, good international relations, and negro welfare; (d) occupations regarded as prosaic, and to some degree, occupations in which the major contacts are with things.

The younger teachers have a wider range of recreational interests, the older a greater range of

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tolerance for people of various types, and more orthodox views regarding religion.

G. SOCIALIZATION

1. GENERAL

The mean socialization score for the older teachers is -3.12, and that for the younger teachers is -7.66 (Table 449). The older teachers definitely excel the younger. The difference is reliable.

The interesting question remains unsolved whether the difference is a matter of growth and experience or whether it is a matter of selection. Possibly the more socialized teachers tend to stay in teaching, while the less highly socialized leave teaching, for marriage or other reasons. Both possibilities must always be considered in comparing the younger with the older teachers.

2. DETAILED ANALYSIS

When the differences between the groups are analyzed in accordance with Hart's classification of the items, it is found that the younger teachers surpass the older in only two respects; indifference toward business success and unconventionality (Table 493). The older teachers surpass the younger in general altruism, objection to repression of freedom of speech,

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interest in economic justice, and international and interracial mindedness.

All of these differences are in general agreement with those reported earlier in the detailed discussion of the differences in attitudes between the younger and older teachers.

H. SUMMARY

1. General. The groups of younger and older teachers are those below and above the mean for age of the entire group. The younger teachers have a mean age of 28, and range in age from 21 to 33. The older teachers have a mean age of 40, and range in age from 34 to 55. It is found that age is not correlated with intelligence and amount of training, and differences between the younger and older teachers must be attributed to selective factors or to changes which occur in teachers as they grow older.

2. Social and economic background. The older teachers come from larger families, with slightly poorer educational background, and where more often they were youngest children or in between youngest and oldest. More of the younger teachers report greater maternal influence in the family and upon their lives. The older teachers report less satisfaction with early

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environment.

3. Intelligence. The older teachers show a slight superiority in mean Alpha score. Although statistically reliable, this difference is inadequate to explain differences in attitudes.

4. Commonality of response. No significant difference appears here.

5. Leisure time activities. The total number of leisure time activities reported correlates -.56 with age. In partial scores, the younger teachers surpass the older in every respect except in uplift activities.

6. Attitudes and interests. The younger teachers care more for physical exercise, leadership, severe punishment of crime, romantic occupations, and occupations involving contacts with people or with words or books, and have a wider range of recreational interests. The older teachers care more for financial success, like reading about sports rather than participation in them, attach more importance to where they live, care more for children and sentiment, are more tolerant of unattractive or objectionable people, are more orthodox in religion, although not more interested in religion as such, take greater interest in social progress, care more for freedom of speech

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and opinion, are more sympathetic with labor viewpoints and more interested in good international relations, and care more for negro welfare.

7. Socialization. The older teachers rate well above the younger on socialization, resembling the "leaders of social progress" more in regard to general altruism, objection to repression of freedom of speech, interest in economic justice, and international and interracial mindedness. The younger teachers resemble the leaders more nearly in regard to indifference toward business success and unconventionality.

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CHAPTER VII. COMPARISON OF TEACHERS WITHOUT DEGREES WITH TEACHERS WITH DEGREES

A. GENERAL

Tables 2 and 3 present the distribution of the teachers in group C with reference to training. It will be seen that approximately one-half of the group have less than a complete college course, while approximately one-half hold one or more degrees. Groups P and Q are composed of the teachers who hold degrees and the teachers who do not hold degrees, respectively.

It will be noted that most of the members of group P have had two years of training beyond high school, these regularly indicating a two-year normal course. For convenience, groups P and Q are often referred to throughout this chapter as the normal school group and the college group, rather than as the teachers without degrees and the teachers with degrees. No real violence is done to the facts by this nomenclature, although a few of the teachers without degrees may have had their advanced training in college, and a few of the teachers with degrees may have completed their college course after finishing a two-year normal course.

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In age, groups P and Q differ but little (Table 495). The mean ages are 34.58 for the normal school group, and 33.22 for the college group. The difference is not statistically reliable.

Intelligence scores likewise reveal no significant differences. Further discussion of these will be given in a later section.

It must be recognized that differences found between the normal school and the college trained groups may not be due wholly to differences in type or length of training. It is probable that the normal schools draw more heavily upon a rural population, while the colleges draw more heavily upon urban communities. Especially is this likely to be true for group Q, since a considerable number of Cincinnati teachers are graduates of the local municipal University.

Economic and social factors, as well as the matter of rural or urban residence, doubtless contribute to the decision as to where the prospective teacher obtains her education.

Several factors thus may contribute to the differences found between normal school and college trained teachers. The present chapter presents the differences actually found, together with such comments regarding possible explanations as seem appropriate.

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B. SOCIAL AND ECONOMIC BACKGROUND

1. ECONOMIC AND EDUCATIONAL

No significant difference appears in the education of the fathers of the normal school and college graduates, with the possible exception of a difference of 11% in percentages finishing normal school (Table 494). None of the fathers of the normal trained teachers graduated from normal school, but 11% of the fathers of the college trained group did so. This difference is not particularly significant, in spite of statistical reliability, since the other slightly smaller differences found indicate that, on the whole, the average schooling of the fathers of the one group was about equal to that of the fathers of the other.

The mothers, on the other hand, differ rather significantly in their education. More of the mothers of the normal school group went through normal school or college, and more of the mothers of the college group finished only high school or less. The differences are statistically highly reliable.

Only a slight difference in size of family appears (Table 495). The mean number of children in the families from which the normal school graduates come was 4.40, while that for the college graduates was 4.00. The

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difference has a reliability of only 755 chances in 1000.

The direct question on economic status of the family does not receive differential answers. 8% more of the normal school group report that the financial circumstances of their families were moderate or well-to-do, but the difference is not reliable enough to be accepted.

From the standpoint of education, it may be said that the fathers of the two groups rate about equal, while the mothers of the normal school group had somewhat more education than those of the college group. From the standpoint of economic status, no clear difference appears, the evidence from the questions suggesting this being differential only to a low degree of reliability, and in opposite directions.

2. SOCIAL BACKGROUND

No statistically reliable differences appear for the questions regarding the social life of the families from which the members of these two groups come.

3. FAMILY RELATIONSHIPS

More of the college graduates were oldest children, while more of the non-college graduates were youngest

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children or in between oldest and youngest. No significant difference appears in the answers to the questions regarding the treatment received as a child in comparison with brothers and sisters.

Significant differences are not found with regard to parent "taken after," but considerably larger percentages of the college trained group state that they liked better either the father or the mother, while 37% more of the normal trained teachers state that they liked father and mother equally. These differences are of high reliability. More of the college trained group state that the father has most influenced them, but more of them also state that the mother was dominant in the family.

4. EARLY ADAPTATION

The questions regarding running away from home are not differential. 17% more of the college graduates state that they would desire a change in their home and other environmental conditions, and 18% more of them state that they would desire more cheerful conditions.

5. SUMMARY

In economic background, the college graduates

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and non-college graduates probably rate about equal. The non-college graduates had better educated mothers, on the average. Social adaptation appears to have been about equal for the families of both groups. The college graduates are more apt to be oldest children and the non-college graduates youngest children. More of the college graduates state that they preferred one parent to the other, and more of them state that they have been influenced most by the father. It may be noted that over 50% of each group state that the mother has exerted the greater influence. The dominant parent in the family is given as the mother by more of the college graduates. The college graduates appear to have been less satisfied with their early environment, and more of them state that they would desire more cheerful conditions if they had their lives to live over.

These differences do not indicate any clear trend toward greater introversion or extroversion on the part of the one group than on the part of the other.

C. INTELLIGENCE

The means for the Alpha scores of the normal school group and the college group are almost identical (Table 495). They are 145.06 and 146.23, respectively, and the

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chances that there is a real difference here are less than seven out of ten (663 in 1000). Intelligence differences cannot be appealed to as the explanation of other differences found between the normal school and college trained teachers.

D. COMMONALITY OF RESPONSE

The mean for the college trained group on commonality of association is significantly higher than that for the normal trained group (Table 495). The means are 27.81 for the normal trained teachers, and 35.08 for the college trained teachers. The difference is of good reliability.

This difference appears to mean that the college trained teachers are more extroverted than the normal trained teachers. There is certainly no reason to suspect a narrower vocabulary for the college trained teachers, but it is evident that they give more common reactions and fewer unique reactions than the normal trained teachers. The conclusion regarding extroversion needs checking, however, by the findings from other parts of the test battery.

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E. LEISURE TIME ACTIVITIES

1. TROW TOTAL ACTIVITIES SCORE

The mean score for the teachers without degrees is 69.50, and that for the teachers with degrees is 85.86 (Table 495). The difference is not of good reliability (770 chances in 1000). On the whole, it may be said that the college group only slightly exceeds the normal school group in participation in the activities listed. In no case, however, for the partial scores listed below, does the college group fall below the normal school group in participation.

2. TROW PARTIAL SCORES

a. Trow Partial 1. Uplift Activities

No significant difference appears here (Table 495). The means are 26 for the teachers without degrees and 25 for the teachers with degrees. More of the teachers without degrees failed to attend any operas or symphony concerts (Table 496).

b. Trow Partial 2. Social Activities

The college graduates markedly surpass the normal school graduates in participation in social activities

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(Table 495). The means are 14 for the normal school group and 21 for the college group. More of the normal school group failed to attend any social meetings, clubs, lodges, etc. (Table 496).

c. Trow Partial 3. Night Entertainment

The small difference found is not reliable enough to meet the statistical criterion (Table 495). The means are 17 for the teachers without degrees, and 21 for the teachers with degrees. More of the normal school graduates attended no comic operas, burlesque, revue, etc. (Table 496).

d. Trow Partial 4. Physical Exercise

The difference between the mean scores is reliable (Table 495). The means are 6 for the normal school group and 9 for the college group. Both of these means are pitifully low, in view of the fact that the teachers were reporting upon the number of times they had taken physical exercise in 20 weeks. More of the normal school graduated failed to play any outdoor or gymnasium games or take any periods of physical exercise, with the possible exception of walking (Table 496).

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e. Trow Partial 5. Non-Professional Books Read

No significant difference appears (Table 495). The means are 7 for the normal school group and 8 for the college group.

F. ATTITUDES AND INTERESTS

1. ATTITUDES TOWARD VARIOUS PERSONAL ACTIVITIES AND SATISFACTIONS (Tables 497-510)

I-1. Success in work (Table 497). DO A GOOD PIECE OF WORK receives strong positive reactions from 15% more of the teachers with degrees. The difference is fairly reliable.

I-2. Financial success (Table 498). Positive reactions are given by 13% more of the teachers with degrees to HOW TO BUY AND SELL STOCKS AND BONDS. On the other hand, WIN OUT IN THE FINANCIAL WORLD receives strong positive reaction from 17% more of the teachers without degrees. These differences are both of fair reliability. Other differences over 10% but with reliability less than 900 chances in 1000 are for the item THRIFTY PEOPLE, which is liked by 11% more of the teachers without degrees, and for the item PEOPLE WHO HAVE MADE FORTUNES IN BUSINESS, which is liked by 12%

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more of the teachers with degrees.

The differences are not consistent for the items under the captions success in work and financial success, nor are they of a high degree of reliability. It cannot be said with assurance that the college trained group rates above the normal school trained group in interest in success in work or in interest in financial success.

I-3. Uncomfortable or unpleasant personal experiences (Table 499). The teachers with degrees give 18% more strong negative reactions to HEAR A CARELESS PLAYER POUND A PIANO, and 13% more strong negative reactions to BE BORED. These differences are of good reliability. On the other hand, the teachers without degrees give 15% more strong negative reactions to UNEXPECTEDLY TOUCH A DEAD BODY, and 12% more to HAVE AN OPERATION. The first of these differences is of fair reliability, the second below the minimum of required reliability.

There is no very obvious reason why the teachers who hold college degrees should be more affected than the normal trained teachers by a badly played piano or a boring conversation. Neither does it appear why the group without college degrees should be more affected by the shock of unexpectedly touching a dead body. Yet these differences are found, at least with reference to

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the reactions to the verbal stimuli.

I-4. Sport and outdoor recreation (Table 500). SPORTING PAGES, SPORTING NEWS, BASEBALL NEWS, and PLAYING TENNIS, are liked by more of the teachers with degrees. The differences in each case are of fair reliability. On the other hand, TAKING LONG WALKS is liked by more of the normal school group, and DRIVING AN AUTOMOBILE is disliked by more of the college trained group. These differences are of good reliability. It may be noted that DRIVING AN AUTOMOBILE receives more neutral reactions from the normal school group, since there is a slightly greater percentage of the college group who like, as well as a larger percentage who dislike, DRIVING AN AUTOMOBILE. It is possible that interest in the sports section of the newspaper and in PLAYING TENNIS may have been cultivated during college days. Interest in TAKING LONG WALKS may perhaps be more characteristic of the group trained in the normal school, who doubtless represent more of a rural background (compare the reactions to I-14, rural or urban residence.) Why DRIVING AN AUTOMOBILE should be differential is not so clear.

I-5. High grade reading and other leisure time activities (Table 501.) The college trained group surpasses the normal school group in interest in PHILOSOPHY, BOOK

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REVIEWS, and NEW REPUBLIC. On the other hand, the normal school group surpasses the college group in interest in THE CLASSICS, and the LITERARY DIGEST. The other items in this list are not clearly differential, although the difference for REVIEW OF REVIEWS, which receives reactions showing greater interest by the normal school group, almost meets the minimum statistical criterion.

It would be difficult to state a basis for a dichotomy which would differentiate the three items in which the teachers with degrees are more interested from the three in which the teachers without degrees are more interested.

I-6. Popular reading and other leisure time activities (Table 502). The first item in this list, LOVE STORIES, is liked by more of the teachers with degrees. The last item in the list, COWBOY MOVIES, is disliked by more of the teachers without degrees. These differences are fairly reliable. Five other items in this list yield differences of reliability great enough to meet the statistical criterion. In each of these cases, greater interest is shown by the teachers without degrees. The items are DETECTIVE STORIES, SHORT STORY MAGAZINES, AMERICAN MAGAZINE, HAROLD BELL WRIGHT, and MUSICAL COMEDY.

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Although the items listed under high grade reading and other leisure time activities do not reveal differences in standards, the items listed here suggest possible differences. For most of these so-called "popular" items, the teachers without degrees show a greater interest. However, the differences may not be in standards, but simply in the classification of items. Combining the types of reading matter listed above with those listed here, the following is the list of items which arouse greater interest among the teachers without degrees: THE CLASSICS, LITERARY DIGEST, DETECTIVE STORIES, SHORT STORY MAGAZINES, AMERICAN MAGAZINES, and HAROLD BELL WRIGHT. The following is the list of items which arouse greater interest on the part of the teachers with degrees: PHILOSOPHY, BOOK REVIEWS, NEW REPUBLIC, LOVE STORIES. It would probably be difficult to correlate these differences with differences in the English curricula of normal schools and colleges.

I-7. Low grade reading and other leisure time activities (Table 503). None of the items here is differential with a degree of reliability sufficient to meet the statistical criterion. VULGAR SHOWS receives strong negative reactions from 14% more of the normal school group, but the difference is not quite reliable enough to be accepted (891 chances in 1000).

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I-8. Humor (Table 504). The college trained teachers show more interest in "JUDGE", HUMOROUS BOOKS, and WORKS OF MARK TWAIN. CHARLIE CHAPLIN is disliked by 10% more of the college trained group, but there are only slightly better than four chances in five that this is a genuine difference (813 chances in 1000).

Whether interest in "JUDGE," HUMOROUS BOOKS, and WORKS OF MARK TWAIN is affected by attendance at college is a debatable question. The differences seem to indicate greater interest in humor on the part of the college group.

I-9. General curiosity (Table 505). Only two items here are differential. 16% more of the normal school group like reading ABOUT HOW PEOPLE THINK. 12% more of the college group dislike BELONG TO A CLUB FOR STUDY. The differences are of fairly good reliability.

It may not be inferred without debate that the normal school group shows greater general curiosity. HEAR AN INTERESTING TALK and FIND OUT ABOUT THE WORLD are stimuli which, although in fact not clearly differential, would need to show differences in the same direction before this assertion could be made with assurance.

I-10. Scientific interest (Table 506). The stimuli

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DO RESEARCH WORK and ABOUT EVOLUTION receive 21% and 25%, respectively, more positive reactions from the college trained teachers. The differences are of good reliability. Reading ABOUT SCIENCE, on the other hand, receives 27% more strong positive reactions from the normal school group, and 23% more neutral reactions from the college group. The differences for the item are likewise of good reliability.

It does not appear that the college training makes students more interested in science than does the normal school training. The differences under this heading are not consistent.

I-11. Manual and mechanical interests (Table 507). 18% more of the normal school group like WORKING WITH YOUR HANDS. 19% more of the college group give strong positive reactions to TRY EXPERIMENTS, but the actual total percentages for the positive reactions to TRY EXPERIMENTS are 82 for the normal group and 75 for the college group.

The normal school group probably come in larger numbers from a rural environment. It is natural that more of them should like WORKING WITH YOUR HANDS, in the light of this fact. On the other hand, the college training has perhaps created greater interest in actual experimentation and research, as shown by the greater

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interest on the part of the college group in DO RESEARCH WORK and TAKE EXAMINATIONS.

I-12. Music (Table 508). 15% more of the normal school group give strong positive reactions to HEAR SYMPHONIES. This is the only difference under this heading.

The suggestion of greater musical interest on the part of the normal school students might or might not be supported by further evidence. It seems probable that the normal school graduates are at least as interested in hearing good music as the college trained group.

I-13. Oral self-expression (Table 509). The reactions throughout to the items in this group indicate greater interest in oral self-expression on the part of the college group. More of them like ARGUMENTS, MAKING A SPEECH, and ORGANIZING A PLAY. More of the normal school group dislike MAKING A SPEECH and INTERVIEWS.

Training probably has considerable to do with the differences found here. Freedom in oral self-expression is doubtless an asset for a teacher, and it is interesting to note that it appears to be better developed in college trained than in normal school trained teachers.

I-14. Rural or urban residence (Table 510). 15%

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more of the normal school group like LIVING ON A FARM. This difference is of fair reliability. A slightly less reliable difference is found in the negative reactions to the same item. 12% more of the college group dislike LIVING ON A FARM. The item LIVING IN THE CITY is not clearly differential.

It seems highly likely that more of the normal school group come from a rural environment. This is the most natural hypothesis by which to explain the differences found here. The same hypothesis fits several of the other differences found between the normal and the college groups.

2. ATTITUDES TOWARD VARIOUS PEOPLE AND RELATIONSHIPS WITH PEOPLE

(Tables 511-524)

II-1. Managing people, leadership (Table 511). The items under this heading are not differential. 12% more of the college group give strong positive reactions to BE A LEADER. This is the largest difference found, but it is not of sufficient reliability to meet the statistical criterion.

II-2. Activities in which social contacts are important (Table 512). More of the normal school trained teachers like CHECKERS, PICNICS and LISTENING

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TO A STORY.

The first two of these items are doubtless more characteristic recreations of rural communities than of urban ones. Possibly LISTENING TO A STORY belongs in the same class. There are five other items under this heading, which are not differential.

II-3. Activities in which social contacts are at a minimum (Table 513). The items here are not differential, to a marked degree. There are about four chances in five that a greater percentage of the college trained teachers would like BEING LEFT TO YOURSELF were the groups indefinitely increased in size. The actual difference found is 10%.

II-4. Conformity to social usage (Table 514). None of the items here reveals a significant difference.

II-5. Susceptibility to social opinion (Table 515). The normal trained group are the more susceptible to social opinion, according to the differences revealed in the reactions to these items. 18% more of the normal trained group give strong negative reactions to BE JEERED AT. 54% more of the normal trained group give negative reactions to NOT GET CREDIT FOR WHAT YOU DO. The actual percentages are 69% for the normal group, 35% for the college group. There is practically no chance that this difference would be reversed, were the groups indefinitely

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increased in size. 18% more of the normal group give a strong negative reaction to BE GOSSIPED ABOUT. 27% more of the normal group give negative reactions to BE CUT BY AN ACQUAINTANCE.

The evidence is conclusive that the normal trained group are more susceptible to social opinion. All of the differences found are of very high reliability and all are in the same direction. Whether students in normal schools are differently selected from those in college, or whether the normal school training and the college training differ in ways to bring about these differences, cannot be stated.

II-6. Family relationships (general) (Table 516). The normal school group are more concerned about MAKING DIVORCE HARDER. 38% more of them give strong positive reactions to this stimulus. The difference is of complete reliability. Likewise of great reliability is the difference in reactions to MORE HONORING OF PARENTS BY CHILDREN. 25% more of the normal group give the strongest positive reactions to this item. The actual percentages here are 25% for the normal group; 0% for the college group.

Discussion of these differences is reserved for section II-10.

II-7. Family relationships (personal) (Table 517).

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18% more of the normal group like GO WALKING WITH YOUR FATHER. 19% more of the college group give strong negative reactions to HAVE YOUR CHILDREN PUT IN AN INSTITUTION. 11% more of the normal group give the strongest negative reactions to DEATH OF A NEAR RELATIVE. The first two differences are of good reliability, the last of fair reliability.

For discussion of these differences, see section II-10, below.

II-8. Children (Table 518). The normal school group appear more interested in children. 16% more of them like PLAY WITH CHILDREN. 19% more of them give strong positive reactions to HOW TO TRAIN CHILDREN. 36% more of them give strong positive reactions to reading ABOUT THE PROPER FEEDING OF CHILDREN.

See section II-10 below for discussion of these differences.

II-9. Sentiment (Table 519). 14% more of the normal school group like strongly HAVE A BABY HOLD YOUR FINGER. 18% more of the normal school group like VERY OLD PEOPLE. These differences are of fair reliability. Along with them may be noted a difference of lower reliability. 11% more of the normal group give strong negative reactions to SEE CHILDREN LEFT MOTHERLESS. The reactions here all seem to indicate

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more sentimentality on the part of the normal group.

For further discussion see the next section.

II-10. Home (Table 520). LADIES HOME JOURNAL receives strong positive reactions from 14% more of the normal school group. The difference just meets the statistical criterion of reliability. MAKE IMPROVEMENTS IN YOUR HOME receives strong positive reactions from 10% more of the normal school group. The difference is of somewhat lower reliability than meets the statistical criterion (816 chances in 1000).

There is every indication that the normal school trained teachers care more regarding family relationships, both in the abstract and as applied to themselves personally, and regarding children, matters of sentiment, and home. These several groups of items yield reactions which are consistent in their general trend. A higher evaluation seems to be placed by the teachers who did not graduate from college upon close family ties.

Out of the eleven significant differences in the last five groups of items, only one indicates stronger feeling about family relations on the part of the college group. This is the item HAVE YOUR CHILDREN PUT IN AN INSTITUTION. The other items all indicate greater interest by the normal school trained teachers.

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II-11. Friendship (Table 521). There are no significant differences under this heading, although two differences of 10% or more appear. 11% more of the college trained group give strong positive reactions to BE FRIENDS WITH PEOPLE, and 10% more of the college trained group give negative reactions to A FALSE FRIEND. These differences show reliabilities of slightly more than four chances in five.

II-12. Persons liked or disliked because of their physical traits (Table 522). The college trained group give more negative reactions to FAT MEN and FAT WOMEN. The normal trained group give more negative reactions to SIDE SHOW FREAKS. These differences are all fairly reliable.

SIDE SHOW FREAKS represent a low grade form of entertainment, quite possibly, whereas FAT MEN and FAT WOMEN represent unattractive physique. Evidently the normal school group are more intolerant of the former, and more tolerant of the latter.

II-13. Persons liked or disliked because of their emotional or behavior traits (Table 523). 17% more of the college group dislike PEOPLE WHO ARE SLOW IN MAKING DECISIONS. This difference is of fair reliability. 25% more of them dislike VERY POLITE PEOPLE, whereas 25% more of the normal school group like VERY POLITE PEOPLE.

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The differences for this item are of high reliability. A difference of low reliability appears for A POOR LOSER. 11% more of the college group give strong negative reactions to this item. The difference is of reliability less than the statistical criterion.

The college group appear less tolerant of PEOPLE WHO ARE SLOW IN MAKING DECISIONS, and to care less about VERY POLITE PEOPLE. They might naturally be expected to show greater dislike for A POOR LOSER, in view of the stress laid upon sports in college.

II-14. Persons liked or disliked because of their intellectual traits (Table 524). A single item under this heading reveals significant differences. 43% more of the normal school group like CONSERVATIVE PEOPLE. 16% more of the college group dislike CONSERVATIVE PEOPLE.

These differences appear to indicate that the normal school group are more interested in whatever the word conservative implies, than are the college group. It should be noted, however, that larger percentages of both groups like PROGRESSIVE PEOPLE than like CONSERVATIVE PEOPLE. PROGRESSIVE PEOPLE receives positive reactions from 93% of the normal school group and 100% of the college group. CONSERVATIVE PEOPLE receives positive reactions from

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67% of the normal school group and 24% of the college group. Evidently a majority of the normal school group marked both PROGRESSIVE PEOPLE and CONSERVATIVE PEOPLE "Like," while all of the college group marked PROGRESSIVE PEOPLE "Like," and only one-fourth of them marked CONSERVATIVE PEOPLE "Like."

3. ATTITUDES TOWARD VARIOUS SOCIAL, MORAL, AND RELIGIOUS PROBLEMS

(Tables 525-537)

III-1. Religion (Table 525). 14% more of the college graduates like DISCUSS RELIGION. 11% more of the normal school group give negative reactions to FEEL THAT GOD HAS FORGOTTEN YOU. The statement, BY MEANS OF PRAYER ONE MAY, IN TIME OF NEED, GET HELP FROM SPIRITUAL POWERS OUTSIDE HIMSELF receives positive reactions from practically all (97%) of the normal school group. On the other hand, 28% of the college group give neutral or negative reactions, as opposed to only 3% of the normal school group; 16% of the college group give the strongest positive reactions in contrast to none of the normal school group. The college trained teachers appear to regard this statement as more significant than do the normal trained teachers, and react to it either by strong positive reactions or

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by neutral or negative reactions, in far more cases. THE BIBLE receives 24% more of the strongest positive reactions from the normal school group. 21% more of the normal school group accept as true the statement IT IS IRREVERENT OR SACRILEGIOUS TO PUT JESUS CHRIST INTO THE SAME CLASS WITH BUDDHA, CONFUCIUS, OR SOCRATES, whereas 18% more of the college group reject this statement.

There is evidence that the college trained teachers are more intellectually interested in religion and less orthodox in their views. This appears for all of the items showing significant differences. It is noteworthy that one of the two statements which show significant differences shows a marked piling up of the reactions by the normal school group on the side of the orthodox view, but without the attaching of special weight to this reaction, whereas the college group spreads out over nearly the entire range of possible reactions. It is a fair inference that the college group are more independent of tradition and more thoughtful regarding religion.

III-2. Ethical values (Table 526). 20% more of the normal school group give strong positive reactions to the statement, COURAGE AND HONOR ARE HIGHER VALUES THAN JOY AND HAPPINESS. 10% more of the college group give strong positive reactions to EVEN-HANDED JUSTICE, but this

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difference is not of adequate reliability.

The normal school group places a higher value upon the statement quoted. This is perhaps in line with their greater orthodoxy in religion.

III-3. General interest in social progress (Table 527). 17% more of the normal school group like WORK FOR SOCIAL JUSTICE. 22% more of this group give strong positive reactions to PROTEST AGAINST SOCIAL INJUSTICE.

The normal school group appear to take greater interest in WORKING FOR SOCIAL PROGRESS.

III-4. Specific social reforms or means to reform (Table 528). ABOLITION OF CHILD LABOR EVILS and CHRISTMAS CHEER FOR THE POOR receive strong positive reactions from more of the normal school group. The differences are of fair reliability. These differences are in general in line with those for the preceding section. It is noteworthy that no significant differences appear in the reactions to the statement KINDHEARTEDNESS IS WHAT ONE NEEDS MOST IN ORDER TO DO GOOD IN THE WORLD.

III-5. Prohibitory legislation (Table 529). PROHIBIT SMOKING TOBACCO receives 18% more negative reactions from the college trained group. The difference is reliable. Positive reactions to this stimulus do not show a significant difference. There are 20% of positive

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reactions for the normal school group, and 12% for the college group. REPRESS GAMBLING does not show a reliable difference, although 11% more of the normal school group give strong positive reactions to this stimulus.

The normal school group are less tolerant of smoking tobacco than the college group. This is the only clear difference found for the items under this heading.

III-6. Freedom of speech and opinion (Table 530). 19% more of the college group give strong negative reactions to the statement SOCIALISTS ELECTED TO LEGISLATURES SHOULD NOT BE ALLOWED TO SERVE. 25% more of the college group give strong negative reactions to the statement A TEACHER OR PROFESSOR WHO IS NOT CONTENTED WITH THE PRESENT SOCIAL SYSTEM SHOULD BE DISCHARGED.

For the two statements just quoted, there are few positive reactions for either group, though somewhat more for the normal school group. The chief differences appear in the strength of negative reactions to the statements. Evidently the college group care more strongly about FREEDOM OF SPEECH AND OPINION. The difference may be compared with the greater tolerance shown by the college group for smoking tobacco.

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III-7. Feminine propriety (Table 531). 14% more of the normal school group dislike SMOKING BY WOMEN. The actual percentages are 79% for the normal school group, 65% for the college group.

The difference found here again goes to show a greater tendency toward tolerance on the part of the college trained teachers.

III-8. Problems of capital and labor (Table 532). 11% more of the college group give the strongest positive reactions to reading ABOUT LABOR PROBLEMS. 22% more of the normal school group dislike reading ABOUT SOCIALISM. 20% more of the college group like COLLECTIVE BARGAINING. This exhausts the reliable differences under this heading, except for two statements. 13% more of the college group give strong negative reactions to the statement LARGE FORTUNES HAVE BEEN MADE ONLY BY HONESTY, BRAINS, AND HARD WORK. 16% more of the normal school group accept as true the statement ALL STRIKES SHOULD BE PROHIBITED.

The few differences noted as reliable all point to more sympathy with the labor viewpoint on the part of the college trained group. While apathy toward labor problems is evident throughout, the college trained teachers are somewhat more interested in labor problems and more sympathetic with the labor viewpoint. There is

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nothing in the differences noted, however, to indicate tendencies toward radical viewpoints on the part of the college trained teachers.

III-9. Political interest (Table 533). The one item under this heading does not show a significant difference.

III-10. International relations (Table 534). 12% more of the normal school group give negative reactions to CONQUEST OF WEAK NATIONS BY STRONG NATIONS. 23% more of the college trained teachers give strong positive reactions to A FEDERATION OF THE WORLD. 21% more of the normal school group accept as true, and 19% more of the college group reject as false, the statement NO COUNTRY EVER HAD AS GOOD LAWS, OR AS GOOD A GOVERNMENT, OR A CULTURE AS GOOD IN ANY WAY AS WE PEOPLE OF THE UNITED STATES HAVE. 16% more of the normal school group give strong positive reactions to the statement, "OUR COUNTRY, RIGHT OR WRONG!" IS A NOBLE SENTIMENT.

The first difference noted above seems to indicate greater interest in good international relations by the normal trained teachers, but the second indicates greater interest by the college trained teachers. The differences in reactions to the two statements quoted, both point to a more chauvinistic type of patriotism

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on the part of the normal trained teachers.

III-11. Punishment of crime (Table 535). 22% more of the normal trained teachers like ABOLITION OF CAPITAL PUNISHMENT, while 15% more of the college trained teachers dislike this proposal. The one statement listed under this heading is not differential.

Persons inclined to regard ABOLITION OF CAPITAL PUNISHMENT as a sentimental proposal may point to the earlier finding that the normal trained teachers show greater sentimentality, and correlate with this the difference found here.

III-12. Negroes (Table 536). The two items listed here are not differential enough to meet the statistical criterion. Small differences appear for the groups measured, as follows. 12% more of the college trained teachers give strong positive reactions to FAIR TREATMENT FOR COLORED PEOPLE, and 6% more of this group give strong positive reactions to SOCIAL JUSTICE FOR NEGROES. On the other hand, when all the positive reactions are included, the indications are of greater interest by the normal school group in FAIR TREATMENT FOR COLORED PEOPLE and SOCIAL JUSTICE FOR NEGROES. Neutral and negative reactions to both of these items are given by more of the college trained teachers.

While the differences are inconclusive, there is

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some indication of greater interest in fair treatment and social justice for negroes on the part of the normal school group. On the other hand, the most typical reaction for all the teachers is positive, while inclinations both to the side of greater stress upon positive reactions and to the side of neutral and negative reactions are more common for the college trained teachers. There is evidence here, as elsewhere, that the college trained teachers place greater stress upon social problems, and have more decided opinions regarding them.

III-13. Schools and teaching (Table 537). 18% more of the college trained teachers give the strongest positive reactions to BETTER PAY FOR SCHOOL TEACHERS. The difference is reliable. 95% of the normal school trained teachers like TEACHING while only 84% of the college trained teachers like this stimulus. The difference is fairly reliable.

One may question whether the 16% of college graduates and the 5% of normal graduates who admit they do not like TEACHING ought to be in the teaching profession. Doubtless to like TEACHING is the conventional reaction here, and the percentages of negative reactions would be greater were perfect candour secured. It may be noted, however, that the presence of a considerable

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number of negative reactions here is good evidence of frankness.

More of the college graduates are disinterested in TEACHING, and yet the college graduates feel more strongly about their financial remuneration. The normal school group will doubtless be considered to have the more desirable attitudes here.

4. TOWARD VARIOUS OCCUPATIONS

More of the normal school graduates like the following occupations: ARTIST, DRAFTSMAN, FARMER, GOVERNESS, MILLINER, MISSIONARY, NURSE, and SOCIAL WORKER (Table 538). More of the college graduates dislike the following: DRAFTSMAN, GOVERNESS, INTERIOR DECORATOR, MISSIONARY, NURSE, POET, RETAIL SALES CLERK, SOCIAL WORKER, and WINDOW TRIMMER. More of the college graduates like the following: ACTRESS, DANCING TEACHER, DETECTIVE, EDITORIAL WRITER, LAWYER, NEWSPAPER REPORTER, and PRIVATE SECRETARY (BUSINESS). More of the normal school graduates dislike the following: LAWYER and PRIVATE SECRETARY (BUSINESS).

A comparison of these lists with the classification of the occupations made by twenty-four women teachers indicates certain trends. The teachers who do not hold degrees tend to prefer the motor occupations, the

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occupations in which the major contacts are with things, and, to a slight degree, the occupations which are more apt to be considered prosaic. The teachers who are college graduates tend to prefer the occupations which have mental activity dominant, in which the major contacts are with people or with words or books, and on the whole, the occupations which are more apt to be considered romantic, or on the borderline between the prosaic and the romantic.

5. GENERAL TENDENCIES

Three of the ten tentative measures of general tendency with reference to attitudes are differential, although in no case is the difference of a high order of reliability (Table 495).

The normal school group rank above the college graduates in range of tolerance for people of various types and in orthodoxy in religion. The college group rank above the normal school group in range of occupational distastes.

None of these differences is large enough to be worthy of extended discussion.

6. SUMMARY

The teachers without degrees show greater interest

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than the teachers with degrees in: (a) popular reading, manual work, and living on a farm; (b) items suggesting susceptibility to social opinion, family relationships, both general and personal, children, sentiment, and home; (c) orthodoxy in religion, items suggesting general interest in social progress, certain specific reforms, a relatively narrow patriotism, and abolition of capital punishment; (d) occupations in which the dominant activity is motor, which have their major contacts with things, and which are considered prosaic.

The college graduates are more interested in: ($_a$) reading about sports, outdoor recreation (except walking), humor, and oral self-expression; (b) tolerance of people objectionable for various traits; ($_c$) items suggesting intellectual interest in religion, tolerance of smoking tobacco and smoking by women, freedom of speech and opinion, and labor problems and labor views (but not radicalism); (d) occupations in which the dominant activity is mental, which have their major contacts with people or with words or books, and which are considered romantic or on the border-line between prosaic and romantic.

The teachers without degrees tend to show greater tolerance for people of various types and greater orthodoxy in religion, while the teachers with degrees

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tend to show a greater range of occupational distastes.

G. SOCIALIZATION

1. GENERAL

The college trained teachers rank decidedly above the normal school trained teachers in score on the general measure of socialization (Table 495). The means are -7.50 for the normal school group and -2.18 for the college group. The difference is larger than the difference between the means for the younger and older teachers, and far larger than the difference between the means for the duller and brighter teachers. In fact, the college trained teachers have the highest mean score for socialization of any of the major groups or sub-groups of this investigation.

2. DETAILED ANALYSIS

A considerable number of the sets of items representing the major differences which Hart found between the leaders of social progress and his control group reveal clear differences here (Table 539).

The normal school trained teachers rate as more socialized with regard to indifference toward light reading, intellectual interest in religion, and general altruism.

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On the other hand, the college trained teachers rate as more socialized with regard to intellectuality and craving for truth, insensitiveness to social opinion, lack of sentiment, indifference to religious creeds, objection to repression of freedom of speech, interest in economic justice, and international and interracial mindedness.

Practically all of these differences for Hart's sets of items are in agreement with the differences already noted in the detailed discussion in earlier sections of this chapter.

H. SUMMARY

1. General. The teachers without degrees do not differ materially in age from the teachers with degrees. Differences found must be attributed to training and selection.

2. Social and economic background. The college graduates probably had a less favorable background educationally, although not economically. More of them were oldest children. More of them were influenced most by the father, although in more of their homes the mother was dominant.

3. Intelligence. Only a negligible difference appears here.

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4. Commonality of response. The college graduates have a significantly higher mean score for commonality of association, possibly signifying greater extroversion.

5. Leisure time activities. The teachers with degrees surpass those without in total participations in the activities listed here, but the difference is of low reliability. Significant differences are found among the partial scores only for social activities and physical exercise, both of which are indulged in somewhat more by the college graduates.

6. Attitudes and Interests. The teachers without degrees are more interested in popular reading, manual work, and living on a farm, are more susceptible to social opinion, care more about close family ties, children, and sentiment, are more orthodox in religion, take greater general interest in social progress and certain specific reforms, show a narrower patriotism, care more for occupations which are relatively prosaic, motor in nature, and concerned with things, and are more tolerant of people of various types. The teachers with degrees are more interested in reading about sports, outdoor recreation, humor, oral self-expression, take greater intellectual interest in religion, are more tolerant of smoking, care more for freedom of speech and opinion, are more interested in labor problems and labor views,

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tend to prefer occupations which are relatively romantic, mental in nature, and concerned with people or with words or books, and have a greater range of occupational distastes.

7. Socialization. The teachers with degrees rate in socialization well above the teachers without degrees, especially with respect to intellectuality and craving for truth, insensitiveness to social opinion, lack of sentiment, indifference to religious creeds, objection to repression of freedom of speech, interest in economic justice, and international and interracial mindedness. The teachers without degrees rate as more socialized, however, with regard to indifference to light reading, intellectual interest in religion, and general altruism.

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CHAPTER VIII. COMPARISON OF DULLER TEACHERS WITH BRIGHTER TEACHERS

A. GENERAL

Groups R and S, which are compared in this chapter, were selected solely on the basis of differences in intelligence, as measured by the Army Alpha Test. Group R consists of the forty teachers from group C whose Alpha score was below 145, the median point in the intelligence distribution. Group S consists of the forty teachers whose Alpha score was 145 or above. The resulting groups have mean Alpha scores of 125.62 and 164.75, respectively (Table 541).

Comparison of these groups with reference to age reveals mean ages differing by one year. The mean age for the duller teachers is 33.21, for the brighter teachers, 34.32 (Table 541.) This difference is so small in comparison with its standard deviation that there are only 732 chances in 1000 that the difference would persist were the groups indefinitely increased in size. The correlation of intelligence with age likewise indicates that differences between groups R and S cannot be attributed to age. The coefficient is $+.11 \pm .077$. Intelligence and age must be regarded as independent variables, for the group of teachers.

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Likewise, the differences between the duller and brighter teachers cannot be attributed to differences in training. The normal school and college trained groups (P and Q) have mean Alpha scores differing only to a negligible degree. 58% of the duller teachers do not hold degrees, while 42% do (Table 5). On the other hand, 50% of the brighter teachers do not hold degrees, and 50% do. Differences in training cannot be held accountable for the differences found between groups R and S.

B. SOCIAL AND ECONOMIC BACKGROUND

1. ECONOMIC AND EDUCATIONAL

Both the mothers and the fathers of the brighter teachers have, on the average, less schooling than the mothers and the fathers of the duller teachers (Table 540). There is practically no difference in the number of children per family (Table 541), nor is there any significant difference in the ratings given by the subjects to the financial circumstances of their families in childhood (Table 540). The differences in schooling of the parents is interesting, but cannot be taken as necessarily significant of economic differences.

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2. SOCIAL BACKGROUND

No significant difference appears between the duller and brighter teachers for breadth of acquaintance or for the question regarding entertainment of and by the subject's family.

3. FAMILY RELATIONSHIPS

More of the brighter teachers were oldest children; more of the duller teachers were youngest children. According to their reports, the brighter and duller teachers were treated about the same in comparison with their brothers and sisters. More of the brighter teachers report that they take after neither parent, while more of the duller teachers report that they take after one or the other parent. Likewise, more of the brighter teachers state that neither parent was dominant in the family, while more of the duller teachers indicate that the one or the other parent was dominant, with a tendency for the mother to be dominant in more cases than the father.

4. EARLY ADAPTATION

More of the brighter teachers report that they had a desire to run away from home, at some time or other as children. On the other hand, no differences of

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significance appear for the numbers actually running away from home, or for the several questions bearing on desire for change in home and other environmental conditions, if the subjects had their lives to live over again.

5. SUMMARY

Significant differences in social and economic background, as between the duller and brighter teachers, are few in number, small in extent, and difficult to interpret. Although the educational background of the parents is somewhat lower for the brighter teachers, there appears to be more of a tendency for good adjustment between the parents (neither parent dominant) of the brighter teachers. For this group, the brighter teachers were more often oldest children, while the duller teachers were more often youngest children. There is no evidence that either the brighter or the duller teachers had an environment more favorable to the development of introverted or extroverted traits than did the other group.

C. INTELLIGENCE

The differences in intelligence, on the basis of which the duller and brighter teachers were selected, have been commented upon in an earlier section of this

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chapter.

D. COMMONALITY OF RESPONSE

The brighter teachers have a much higher mean score for commonality of response, as measured by the Kent-Rosanoff Free Association Test (Table 541). The means are 24.91 for the duller teachers, and 38.00 for the brighter teachers. Along with this statement of differences must be put one in terms of a correlation coefficient. For the teacher group, the commonality score correlates with intelligence $+.29 \pm .075$.

Although the commonality score cannot be interpreted with much assurance, it may be stated that the positive relationship here found between intelligence and commonality of response is the reverse of that usually noted. On the whole, a high degree of commonality of association tends to go with a high degree of extroversion, according to the workers with association tests (2, p. 134). If this test may be taken as a measure of extroversion, the brighter teachers rate definitely above the duller teachers on this trait.

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E. LEISURE TIME ACTIVITIES

1. TROW TOTAL ACTIVITIES SCORE

The means for groups R and S are practically the same, 77.92 for the duller teachers, and 76.50 for the brighter teachers (Table 541). The correlation coefficient for intelligence with Trow Total Score is $-.16 \pm .075$. This correlation is close to zero and highly unreliable.

2. TROW PARTIAL SCORES

a. Trow Partial 1. Uplift Activities

Practically the same mean score is found for the duller and brighter teachers (Table 541), but fewer of the brighter teachers went to any operas and fewer of them attended church regularly (Table 542).

b. Trow Partial 2. Social Activities

Practically the same mean score obtains for both groups here (Table 541). More of the duller teachers, however, went to one or more dances, and indulged in indoor games one or more times, during the twenty weeks reported upon (Table 542).

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c. Trow Partial 3. Light Entertainment

A reliable difference appears here, the duller teachers attending, on the average, more motion picture shows and other types of light entertainment (Table 541). One exception may be noted; more of the brighter teachers went to one or more plays (Table 542).

d. Trow Partial 5. Physical Exercise

No significant difference appears here (Tables 541 and 542).

e. Trow Partial 5. Non-Professional Books Read

No significant difference appears here (Table 541).

F. ATTITUDES AND INTERESTS

1. ATTITUDES TOWARD VARIOUS PERSONAL ACTIVITIES AND SATISFACTIONS

(Tables 543-556)

I-1. Success in work (Table 543). The one item under this heading does not reveal a statistically reliable difference, although 11% more of the brighter teachers give strong positive reactions to DO A GOOD PIECE OF WORK. The reliability of the difference is 829 chances in 1000.

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I-2. Financial success (Table 544). The reliable differences for the items under this heading seem to indicate greater interest in financial success on the part of the duller teachers. Such differences appear for positive or strongly positive reactions to the following stimuli: THRIFTY PEOPLE, HOW TO BUY AND SELL STOCKS AND BONDS, WIN OUT IN THE FINANCIAL WORLD, SUCCESS IN BUSINESS, and PEOPLE WHO HAVE MADE FORTUNES IN BUSINESS. One additional difference may be noted. 14% more of the duller teachers also give negative reactions to HOW TO BUY AND SELL STOCKS AND BONDS. The typical reactions to this item by the brighter teachers are those of neutrality, whereas more of the duller teachers like the item, and more of them dislike it. One other difference, which just fails to meet the statistical criterion, appears for CONCENTRATION OF WEALTH. This stimulus is disliked by 14% more of the brighter teachers (reliability 898 chances in 1000).

It is probable that more of the brighter teachers could make more money in some other occupation than teaching. Teaching may be more of a social service occupation for the brighter teachers than it is for the duller ones. This hypothesis is tested to some extent in certain of the later sections in this discussion.

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I-3. Uncomfortable or unpleasant personal experiences (Table 545). 19% more of the brighter teachers dislike strongly HAVE AN OPERATION. 12% more of them dislike strongly BE BORED and 10% more of them dislike strongly HEAR A CARELESS PLAYER POUND A PIANO. The first two differences are of good reliability, the last mentioned of reliability below the statistical criterion (846 chances in 1000).

Intelligence appears to be positively correlated with sensitiveness to unpleasant personal experiences, for the teachers measured.

I-4. Sport and outdoor recreation (Table 546). More of the duller teachers like FISHING, PLAYING GOLF, PLAYING TENNIS, and DRIVING AN AUTOMOBILE.

These differences are all in the same direction. For this teacher group, intelligence is negatively correlated with interest in sport and out-door recreation.

I-5. High grade reading and other leisure time activities (Table 547). Five items under this heading show differences of 10% or over. Although three of these do not meet the statistical criterion, all five differences are in the same direction, pointing to greater interest in high grade reading on the part of the brighter teachers. The more significant differences are for PHILOSOPHY and BOOK REVIEWS, while the others

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are for THE CLASSICS, LYRIC POETRY, and ATLANTIC MONTHLY.

Save for PHILOSOPHY, which shows a difference of 30% in positive reactions, the differences are not striking. At the same time, they do indicate greater interest on the part of the brighter teachers in the types of reading listed as high grade. Intelligence appears to be positively correlated with interest in high grade reading, for the teachers measured.

I-6. Popular reading and other leisure time activities (Table 548). LOVE STORIES receive 16% more positive reactions from the brighter teachers. The difference is fairly reliable. On the other hand, all the other differences amounting to 10% or over for the items in this list indicate greater interest by the duller teacher, or greater dislike by the brighter teachers. The more reliable of these are for AMERICAN MAGAZINE, HAROLD BELL WRIGHT, VAUDEVILLE, and COWBOY MOVIES. The less reliable are for the RED BOOK MAGAZINE, and MARY PICKFORD.

With the exception of LOVE STORIES, the items grouped together in this list under the heading popular reading and other leisure time activities are more attractive to the less intelligent teachers.

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The distinction made, in the classification of items, between high grade reading and other leisure time activities and popular reading and other leisure time activities would seem on the whole to be justified by the findings for these two lists for duller and brighter teachers.

I-7. Low grade reading and other leisure time activities (Table 549). More of the duller teachers like SMART SET and more of the brighter teachers dislike SMART SET and SNAPPY STORIES. VULGAR SHOWS does not reveal a significant difference.

The brighter teachers are more inclined to reject the two items of low grade reading in this list. If the various items in the three lists headed high grade, popular, and low grade reading and other leisure time activities have been classified with approximate accuracy, the differences found reveal a definite correlation of intelligence with standards of taste for the teacher group.

I-8. Humor (Table 550). Three of the items receive strong positive reactions from more of the brighter teachers. These are "JUDGE," HUMOROUS BOOKS, and WORKS OF MARK TWAIN. On the other hand, CHARLIE CHAPLIN receives positive reactions from more of the duller teachers and negative reactions from more of the brighter

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teachers.

The differences suggest correlation between intelligence and interest in humorous reading matter, but a negative correlation between intelligence and interest in whatever CHARLIE CHAPLIN signifies.

I-9, 10, and 11. General curiosity; Scientific interest; Manual and mechanical interests (Tables 551, 552, and 553). The differences for these three groups of items are all in the same direction. More positive or strong positive reactions appear for the less intelligent teachers for the following items: HEAR AN INTERESTING TALK, BELONG TO A CLUB FOR STUDY, FIND OUT ABOUT THE WORLD, DISCOVER TRUTH, DO RESEARCH WORK, FIND OUT HOW THINGS WORK, and SCIENTIFIC AMERICAN. All but the last of these items directly suggest curiosity, expressed in some form or other. The last is the name of a magazine which appeals to interest in the more spectacular findings of science. For the teacher group, there is clear indication of a negative correlation between general curiosity and intelligence. This is contrary to the usual assumptions regarding the nature of intelligence, and presumably is special for the group of teachers investigated. There is, however, strong indication in the reliabilities of the differences that the same correlation would maintain for larger groups of teachers similarly selected.

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I-12. Music (Table 554). 16% more of the brighter teachers are neutral or negative in their reactions to HEAR SYMPHONIES. 15% more of the brighter teachers like PLAY IN AN ORCHESTRA.

The audience situation with reference to music evidently does not appeal as much to the brighter as to the duller teachers, whereas the performance of music makes greater appeal to the brighter teachers.

I-13. Oral self-expression (Table 555). The only difference of good reliability for the items in this list appears for the first item, ARGUMENTS, which is liked by 29% more of the brighter teachers. TELLING A STORY is liked by 14% more of the brighter teachers (reliability 879 chances in 1000).

The evidence is not sufficient to indicate definitely that the brighter teachers are more interested in oral self-expression, although it points in that direction.

I-14. Rural or urban residence (Table 556). 17% more of the duller teachers like LIVING IN THE CITY. This difference, which is reliable, is the only significant one for the two items here.

It must be remembered that the teachers measured in this experiment live either in a large city or in close proximity to one. While a majority of both brighter and duller teachers like LIVING IN THE CITY,

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more of the brighter teachers are neutral or negative to this stimulus. The attraction of city life appears to be greater for the duller than for the brighter teachers.

2. ATTITUDES TOWARD VARIOUS PEOPLE AND RELATIONSHIPS WITH PEOPLE

(Tables 557-570)

II-1. Managing people, leadership (Table 557). The duller teachers are more interested in leadership. 27% more of them give strong positive reactions to BE A LEADER, 15% more give strong positive reactions to DO EXECUTIVE WORK, and 17% more of them like PEOPLE WHO TEND TO ASSUME LEADERSHIP. 14% more of the brighter teachers dislike PEOPLE WHO TEND TO ASSUME LEADERSHIP.

Interest in leadership appears to be negatively correlated with intelligence, for the teachers measured. Attention may be called again to the differences appearing with reference to interest in financial success and to the hypothesis that for the brighter teachers their occupation is more of a social service nature than it is for the duller teachers.

II-2. Activities in which social contacts are important (Table 558). BRIDGE, CONVENTIONS, AMUSEMENT PARKS, and PICNICS, all receive more positive reactions from the duller teachers. The first two of these

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differences are of fairly good reliability, the last two of reliability somewhat below the statistical criterion. More of the brighter teachers dislike AMUSEMENT PARKS and CONVENTIONS. These differences are of good reliability.

Interest in the activities mentioned above is negatively correlated with intelligence, for the teachers measured. It does not necessarily appear that these differences are primarily due to the fact that social contacts are made in each of the activities mentioned. Such a hypothesis is certainly not supported by the failure to find differences between the brighter and duller teachers on participation in social activities (Trow Partial Score 1), and the tentative measure of interest in social contacts (Attitudes VII). Other explanations are probably more in order for these differences.

II-3. Activities in which social contacts are at a minimum (Table 559). The two items listed here do not show significant differences. 10% more of the brighter teachers like SOLITAIRE, but this difference is not of very high reliability (829 chances in 1000).

II-4. Conformity to social usage (Table 560). 12% more of the duller teachers dislike strongly INTRODUCE A PERSON WHOSE NAME YOU HAVE FORGOTTEN. 11%

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more of the brighter teachers dislike strongly BE IN INFORMAL CLOTHES AT A FORMAL AFFAIR. The first of these differences is of fair reliability, while the latter just barely falls below the statistical criterion.

Differences in interest in conformity to social usage appear small.

II-5. Susceptibility to social opinion (Table 561). Two items here show differences of fair or good reliability; the other three items in this list show differences in the same direction, but of reliability below the statistical criterion. In each case strong negative reactions are given by more of the brighter teachers. The more reliable differences appear for the items BE JEERED AT and BE GOSSIPED ABOUT, while the less reliable differences appear for NOT GET CREDIT FOR WHAT YOU DO, HAVE TO WEAR SHABBY CLOTHES, and BE CUT BY AN ACQUAINTANCE.

There is consistent evidence that the brighter teachers are more susceptible to social opinion.

Doubtless the differences noted in the preceding section, for the item, BE IN INFORMAL CLOTHES AT A FORMAL AFFAIR, go along with the differences mentioned in this section. The one item which shows a difference in the opposite direction, appearing in the preceding

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section, INTRODUCE A PERSON WHOSE NAME YOU HAVE FORGOTTEN, involves a situation where the more intelligent person is perhaps better able to adapt himself than the less intelligent, but where the social disapprobation is not exactly like that suggested by the other items listed here. It may be said that intelligence appears to be positively correlated with susceptibility to social opinion, for the group of teachers measured.

II-6. Family relationships (general) (Table 562). 28% of the less intelligent teachers give strong positive reactions to reading ABOUT EUGENICS. On the other hand, 16% more of the brighter teachers give strong positive reactions to MAKE DIVORCE HARDER, and 13% more of the brighter teachers give negative reactions to MAKE DIVORCE HARDER. The duller teachers are more inclined to give neutral or unstressed positive reactions to this stimulus. 16% more of the brighter teachers give strong negative reactions to NEGLECT OF AGED PARENTS BY THEIR CHILDREN. All of the differences thus far mentioned are of fair or good reliability. 10% more of the duller teachers give the strongest positive reaction to MORE HONORING OF PARENTS BY THEIR CHILDREN. This difference just fails to meet the statistical criterion.

The evidence is not clear in the differences noted,

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on the question of the relationship between intelligence and general interest in family relationships, for the teachers tested.

II-7. Family relationships (personal) (Table 563). 17% more of the duller teachers give strong positive reactions to LOYALTY TO ONE'S PARENTS. 16% more of them give strong negative reactions to RUDENESS TO ONE'S FATHER. 23% more of them give strong negative reactions to FAIL TO HEAR FROM YOUR PARENTS, BROTHERS, OR SISTERS. 12% less of them dislike ATTEND YOUR FAMILY REUNION. 10% more of the duller teachers give strong positive reactions to GO WALKING WITH YOUR FATHER. The last mentioned difference just barely fails to meet the statistical criterion. 10% more of the brighter teachers give strong negative reactions to DEATH OF A NEAR RELATIVE, but this difference is of a reliability barely over four chances in five (811 chances in 1000).

All of these differences but the last mentioned indicate more interest in personal family relationships on the part of the duller teachers. There is no implication here that the brighter teachers are not interested in family relationships, but it does appear that in comparison with the duller teachers they attach less significance to them. It may be concluded that intelligence is negatively correlated with interest in

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personal family relationships, for the teachers tested.

II-8. Children (Table 564). 18% more of the duller teachers give strong positive reactions to reading ABOUT HOW TO TRAIN CHILDREN, and 24% more of them give strong positive reactions to reading ABOUT THE PROPER FEEDING OF CHILDREN.

While the stimuli CHILDREN and PLAY WITH CHILDREN are not differential, the two differential stimuli appear to indicate greater interest in learning about child care on the part of the duller teachers.

II-9. Sentiment (Table 565). 12% more of the duller teachers give the strongest negative reaction to SEE CHILDREN LEFT MOTHERLESS, but the significance of this is vitiated by the fact that when all of the strong negative reactions are considered, 11% more of the brighter teachers give such reactions to this item. 22% more of the brighter teachers give strong positive reactions to HAVE A BABY HOLD YOUR FINGER, and 27% more of the brighter teachers give strong negative reactions to SEE A BIG BOY PICK ON A LITTLE FELLOW. These differences are highly reliable. 14% more of the brighter teachers like VERY OLD PEOPLE. This difference just barely fails to meet the statistical criterion.

On the whole, the brighter teachers show greater

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sentiment with regard to these items than do the duller teachers. This is not in line with the differences found for interest in personal family relationships, but the items here listed may possibly represent a different type of stimulus.

II-10. Home (Table 566). The two stimuli listed here receive more strong positive reactions from the duller teachers. The difference is highly reliable for LADIES HOME JOURNAL, but not reliable enough to meet the statistical criterion for MAKE IMPROVEMENTS IN YOUR HOME.

The difference for LADIES HOME JOURNAL may be correlated with those on reading about HOW TO TRAIN CHILDREN and reading ABOUT THE PROPER FEEDING OF CHILDREN, and possibly also with those for popular reading matter.

II-11. Friendship (Table 567). All of the differences which appear for this group of items suggest greater interest in friendship on the part of the brighter teachers. The differences in negative or strong negative reactions are marked for the items BE LONELY, MOVE AWAY FROM FRIENDS, and A FALSE FRIEND. The difference is not quite so clearly marked for the strong positive reactions to BE FRIENDS WITH PEOPLE.

Interest in friendship seems to be definitely correlated with intelligence for the teachers tested.

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II-12. Persons liked or disliked because of their physical traits (Table 568). No significant differences appear for this group of items. The nearest to a significant difference is for FAT WOMEN, an item which is disliked by 12% more of the duller teachers. The difference is not reliable enough to meet the statistical criterion.

II-13. Persons liked or disliked because of their emotional or behavior traits (Table 569). The item PEOPLE WHO ARE SLOW IN MAKING DECISIONS is liked by 15% more of the duller teachers. The actual percentages are small, 15% for the duller and 2% for the brighter teachers, but the difference is of good reliability. 14% more of the duller teachers like VERY POLITE PEOPLE, but since the actual percentages are larger the difference is not quite reliable enough to meet the statistical criterion. On the other hand, EMOTIONAL PEOPLE are disliked by 11% more of the brighter teachers (reliability 839 chances in 1000), and A POOR LOSER is disliked strongly by 24% more of the brighter teachers. The last mentioned difference is highly reliable.

The duller teachers appear more tolerant toward PEOPLE WHO ARE SLOW IN MAKING DECISIONS and more favorable toward VERY POLITE PEOPLE. The brighter teachers dislike more intensely A POOR LOSER and are less tolerant of

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EMOTIONAL PEOPLE.

II-14. Persons liked or disliked because of their intellectual traits (Table 570). 10% more of the brighter teachers dislike CONSERVATIVE PEOPLE. The actual percentages are small, 8% for the duller and 18% for the brighter teachers, but the difference is fairly reliable. It is interesting to note that 15% more of the duller teachers like PEOPLE MORE INTELLIGENT THAN YOU. This difference is of good reliability.

The difference for CONSERVATIVE PEOPLE suggests a possible correlation between interest in progress and intelligence, for the group measured. The difference in reactions to PEOPLE MORE INTELLIGENT THAN YOU is most interesting, and may have any one of several explanations.

3. ATTITUDES TOWARD VARIOUS SOCIAL, MORAL, AND RELIGIOUS PROBLEMS

(Tables 571-583)

III-1. Religion (Table 571). The earlier part of this list of items yields some significant differences. This is the part which is more general in nature, and less concerned with orthodox religious views. The following stimuli are liked, or liked strongly, by more of the brighter teachers: ABOUT DIFFERENT RELIGIONS,

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MORE HARMONY WITH THE DIVINE PURPOSE, MORE FAITH IN GOD, COMMUNE WITH THE GREAT SPIRIT, and MORE USE OF PRAYER. The differences on these items range from 11% to 21%. The statement, A CONSCIOUS PURPOSE, GREATER THAN THE PURPOSES OF MEN, WORKS FOR RIGHTEOUSNESS IN THE WORLD, is more differential. It is given a strong positive reaction by 45% more of the brighter teachers. The stimulus RELIGIOUS PEOPLE receives a positive reaction from 15% more of the brighter teachers, and a negative reaction from 10% more of the duller. The stimulus IRRELIGIOUS PEOPLE receives a negative reaction from 27% more of the brighter teachers.

There is a positive correlation, for the teachers tested, between intelligence and general interest in religion, and the adoption of typically religious viewpoints. None of the items which suggests a Christian viewpoint as such yields a reliable difference. The significant differences found are all consistent with each other.

III-2. Ethical values (Table 572). No significant differences appear for the two items under this heading. 13% more of the duller teachers give strong positive reactions to the statement COURAGE AND HONOR ARE HIGHER VALUES THAN JOY AND HAPPINESS. The difference has a reliability of 867 chances in 1000.

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III-3. General interest in social progress (Table 573). The stimulus HELP MAKE THE WORLD HAPPIER receives strong positive reactions from 15% more of the duller teachers. The stimulus WORK FOR SOCIAL JUSTICE receives positive reactions from 16% more of the brighter teachers, and strong positive reactions from 12% more of the duller teachers. The first two differences mentioned are of fair reliability, the last named of reliability not quite high enough to meet the statistical criterion.

Very few, either of the duller or brighter teachers, actually give negative reactions to these stimuli. However, two of the four stimuli under this heading arouse more strong favorable sentiment from the duller teachers. On the other hand, one of these receives a larger total expression of interest from the brighter teachers. Interest in social progress is neither positively nor negatively correlated with intelligence, for the teachers measured, according to this evidence.

III-4. Specific social reforms or means to reform (Table 574). CHRISTMAS CHEER FOR THE POOR and MILK AND ICE FUNDS FOR BABIES receive more strong positive reactions from the duller teachers. These differences are of high reliability. On the other hand, for each of these two items there is a stronger tendency for the brighter teachers to mark the item "Like," without

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stressing the reaction. The percentage of reactions of "Like," without stress, for the duller teachers, is 52, while for the brighter teachers it is 95, for the stimulus CHRISTMAS CHEER FOR THE POOR. There are two differences of 10%, with reliability just barely over four chances in five, perhaps worth mentioning. 10% more of the brighter teachers give strong positive reactions to ABOLITION OF CHILD LABOR EVILS. 10% more of the duller teachers accept as true the statement, KINDHEARTEDNESS IS WHAT ONE NEEDS MOST IN ORDER TO DO GOOD IN THE WORLD.

The significant differences indicate that for the items, CHRISTMAS CHEER FOR THE POOR and MILK AND ICE FUNDS FOR BABIES, there is a stronger tendency for the more intelligent teachers to give a positive reaction without stress, while for the less intelligent teachers there is a greater tendency to give a strong positive reaction or a neutral reaction. More of the brighter teachers reject the statement, KINDHEARTEDNESS IS WHAT ONE NEEDS MOST IN ORDER TO DO GOOD IN THE WORLD, while more of them stress the one outstanding social reform mentioned in this list, ABOLITION OF CHILD LABOR EVILS. It may be noted that ABOLITION OF CHILD LABOR EVILS is a definite reform, while CHRISTMAS CHEER FOR THE POOR and MILK AND ICE FUNDS FOR BABIES are only

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ameliorative measures.

III-5. Prohibitory legislation (Table 575). 17% more of the brighter teachers like REPRESS GAMBLING, but stress is given to a positive reaction to this stimulus by 20% more of the duller teachers. PROHIBIT SMOKING TOBACCO is not clearly differential.

More of the brighter teachers apparently recognize gambling as an evil to be repressed. On the other hand, the brighter teachers are not so apt to give strong weight to this reform as are the duller teachers.

III-6. Freedom of speech and opinion (Table 576). More of the brighter teachers dislike REPRESSION OF FREE SPEECH. More of the brighter teachers reject the statement, A TEACHER OR PROFESSOR WHO IS NOT CONTENTED WITH THE PRESENT SOCIAL SYSTEM SHOULD BE DISCHARGED, and, more of the duller teachers accept this statement as true. More of the brighter teachers like FREER DISCUSSION OF SOCIAL AND POLITICAL QUESTIONS, although this last difference is not reliable enough to meet the statistical criterion.

All of the differences noted point to the same conclusion. There is a positive correlation between interest in freedom of speech and opinion and intelligence, for the teachers tested.

III-7. Feminine propriety (Table 577). No

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significant differences are found here. 10% more of the duller teachers give strong positive reactions to SEE WOMEN GO INTO PROFESSIONS LIKE MEDICINE AND LAW (reliability 864 chances in 1000), but there is actually a slightly larger percentage of the brighter teachers who like this item than there is of the duller teachers.

III-8. Problems of capital and labor (Table 573). More of the brighter teachers like reading ABOUT LABOR PROBLEMS and ABOUT REVOLUTION BY THE WORKERS, and more of them dislike strongly LABOR AND SOCIALIST DAILIES. More of the duller teachers are negative to COLLECTIVE BARGAINING, while more of the duller teachers like DIRECT REPRESENTATION IN CONGRESS BY INDUSTRIES. The brighter teachers give more negative and strong negative reactions to SOVIET CONTROL IN INDUSTRY. More of the duller teachers accept as true the statement ALL STRIKES SHOULD BE PROHIBITED, while more of the brighter teachers reject this statement. More of the duller teachers like SOLDIERS TO STOP STRIKES, and more of the brighter teachers dislike this item. More of the duller teachers give strong negative reactions to the statement LARGE FORTUNES HAVE BEEN MADE ONLY BY HONESTY, BRAINS, AND HARD WORK, but it must be noted that the total percentage of negative reactions is slightly larger for the brighter teachers.

The brighter teachers are more inclined to like

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reading about problems of capital and labor, in general terms at least, although more inclined to dislike LABOR AND SOCIALIST DAILIES. The brighter teachers are more inclined to favor COLLECTIVE BARGAINING, but less inclined to favor DIRECT REPRESENTATION IN CONGRESS BY INDUSTRIES. COLLECTIVE BARGAINING is, of course, a slogan of conservative labor, while DIRECT REPRESENTATION IN CONGRESS BY INDUSTRIES represents a far more radical viewpoint. Likewise, the brighter teachers reject more strongly, and in fact give more total negative reactions to SOVIET CONTROL IN INDUSTRY, which again represents a relatively radical viewpoint. The differences found for ALL STRIKES SHOULD BE PROHIBITED and SOLDIERS TO STOP STRIKES indicate that the duller teachers are more inclined to adopt a highly conservative anti-labor attitude than are the brighter teachers. The statement, LARGE FORTUNES HAVE BEEN MADE ONLY BY HONESTY, BRAINS, AND HARD WORK is denied by more of the brighter teachers; but more of the duller teachers attach special weight to their denial of this statement.

The brighter teachers are more inclined to adopt a mild, rather conservative labor attitude, while the duller teachers are more inclined to stress either a radical labor attitude or a highly conservative capitalistic attitude. For this group of items as a

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whole, intelligence is correlated with a middle-of-the-road position, for the teachers measured.

III-9. Political interest (Table 579). 15% more of the brighter teachers react positively to the stimulus MORE INTEREST IN LOCAL POLITICS. The difference is of fair reliability.

Interest in local politics seems to be correlated to some degree with intelligence, for the teachers measured.

III-10. International relations (Table 580). More of the brighter teachers give strong negative reactions to HATRED BETWEEN NATIONS and CONQUEST OF WEAK NATIONS BY STRONG NATIONS. The differences are 30 and 27% respectively, and are highly reliable. Practically equal percentages of the duller and brighter teachers (72 and 75% respectively) give positive reactions to WORLD DISARMAMENT, but the strongest positive reaction is given by 15% more of the duller teachers. 11% more of the brighter teachers give positive reactions to A FEDERATION OF THE WORLD (reliability 828 chances in 1000), but there is a very slight tendency for more of the duller teachers to give strong positive reactions to this stimulus. 22% more of the duller teachers accept as true the statement, NO COUNTRY EVER HAD AS GOOD LAWS, OR AS GOOD A GOVERNMENT, OR A CULTURE AS GOOD IN ANY WAY

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AS WE PEOPLE OF THE UNITED STATES HAVE, and 18% more of the brighter teadhers reject this statement. 18% more of the brighter teachers give strong negative reactions to the statement, "OUR COUNTRY RIGHT OR WRONG!" IS A NOBLE SENTIMENT. It may be noted that the total number of negative reactions here is slightly more for the brighter teachers than for the duller, while the total number of positive reactions is slightly more for the duller teachers. 12% more of the brighter teachers accept the statement, THE UNITED STATES HAS AT TIMES BEEN TYRANNICAL TOWARD WEAKER NATIONS, and 10% more of the duller teachers reject it. These differences are not quite of enough reliability to meet the statistical criterion.

The brighter teachers apparently feel more strongly about good international relations, as judged by their reactions to HATRED BETWEEN NATIONS and CONQUEST OF WEAK NATIONS BY STRONG NATIONS. More of them care for WORLD DISARMAMENT and A FEDERATION OF THE WORLD, although here, as elsewhere, there is a tendency for the duller teachers to give greater stress to certain of the items to which more of the brighter teachers give the generally accepted affective reaction. The two or three statements quoted yield differences which suggest strongly that the brighter teachers are less chauvinistic and less satisfied of the

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infallible righteousness of their country. The duller teachers have a narrower patriotism. In an age which many historians regard as imperialistic, it is interesting to note that 75% of the duller teachers and 65% of the brighter teachers reject the statement, THE UNITED STATES HAS AT TIMES BEEN TYRANNICAL TOWARD WEAKER NATIONS.

III-11. Punishment of crime (Table 3C1). 12% more of the duller teachers give strong positive reactions to the statement, CRIME CAN BEST BE REDUCED BY PUNISHING EVERY CRIMINAL SEVERELY, but positive reactions to this statement are slightly more common for the brighter teachers. The stimulus ABOLITION OF CAPITAL PUNISHMENT receives 13% more positive reactions from the duller teachers and 12% more negative reactions from the brighter teachers. These differences are of reliability just below the statistical criterion.

Although the differences are not conclusive, the indication is that the brighter teachers are less lenient than the duller teachers in their attitude toward criminals. While a majority of each group rejects the statement quoted regarding the best way to reduce crime, and more of the teachers as a whole favor ABOLITION OF CAPITAL PUNISHMENT than reject it, the brighter teachers are the less inclined to these attitudes.

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111-12. Negroes (Table 582). 20% more of the brighter teachers give strong positive reactions to FAIR TREATMENT OF COLORED PEOPLE. 31% more of the brighter teachers give positive reactions to SOCIAL JUSTICE FOR NEGROES.

Interest in negro welfare, in so far as indicated by these stimuli, is considerably greater among the more intelligent teachers.

111-13. Schools and teaching (Table 583). 26% more of the duller teachers give strong positive reactions to BETTER PAY FOR SCHOOL TEACHERS. 15% more of the duller teachers like TEACHING. The actual percentages giving positive reactions to TEACHING are 97 for the duller and 82 for the brighter teachers. None of the duller teachers and 5% of the brighter teachers say they dislike TEACHING. 3% of the duller teachers and 12% of the brighter teachers say they are neutral to teaching.

Evidently the less intelligent are more concerned about the financial compensation. It has been suggested before that more of the brighter teachers possibly regard TEACHING as a social service occupation. On the other hand, either the brighter teachers are more frank in their reactions toward the stimulus TEACHING, or more of them are actually neutral or negative to their

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profession.

4. TOWARD VARIOUS OCCUPATIONS

More of the duller teachers like the following occupations: ARTIST, EMPLOYMENT MANAGER, NURSE, PRIVATE SECRETARY (SOCIAL), SOCIAL WORKER, and TEACHER (Table 584). More of the brighter teachers dislike the following: DETECTIVE, DIPLOMAT, EMPLOYMENT MANAGER, LAWYER, NEWSPAPER REPORTER, NURSE, SOCIAL WORKER, STENOGRAPHER, and TEACHER.

More of the brighter teachers like: CHEF, DRESS MAKER, EDITORIAL WORKER, FARMER, and NOVELIST. None of the occupations listed is disliked by more of the duller teachers.

A check of these occupations with the classification made by twenty-four women teachers reveals slight tendencies for the duller teachers to care more for occupations in which the dominant activity is mental, and for the brighter teachers to care more for activities involving primarily motor activity. Likewise, the duller teachers care somewhat more for occupations in which the major contacts are with people, while the brighter teachers apparently care somewhat more for occupations in which the major contacts are with things. The classification of occupations as prosaic and romantic

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does not reveal differences between the duller and the brighter teachers.

5. GENERAL TENDENCIES

Only one of the tentative measures of general tendencies shows a difference here (Table 541). The brighter teachers have a wider range of occupational distastes, on the average.

6. SUMMARY

The duller teachers are more interested than the brighter in: (a) financial success, sport and outdoor recreation, popular reading and other leisure time activities, items suggesting general curiosity, items suggesting scientific interest, manual work and mechanical matters, and residence in cities; (b) managing people and leadership, certain social recreations, personal family relationships, reading about child care, and people who are slow in making decisions, conservative, more intelligent than themselves, very polite, or emotional; (c) the alleviation of social evils, belief in kindheartedness as the prime necessity for doing good in the world, a narrow patriotism, and teaching; (d) occupations with their dominant activity mental, and their major contacts

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with people.

The brighter teachers are more interested in: (a) items suggesting sensitiveness to personal discomfort and unpleasantness, high grade reading, humor, and perhaps oral self-expression; (b) items suggesting sensitiveness to social opinion, items tending to suggest more sentiment (although not regarding family relationships), friendship, and people who are good losers; (c) items suggesting general religious interests and viewpoints, abolition of child labor evils, labor problems and rather conservative labor attitudes, local politics, good international relations, a broad patriotism, severe punishment for crime, negro welfare; (d) occupations with their dominant activity motor and their major contacts with things.

The brighter teachers also show a wider range of occupational distastes.

G. SOCIALIZATION

1. GENERAL

No significant difference appears as between the duller and brighter teachers, in mean score for socialization (Table 541). Tabulation of the scores derived for the Hart test of social attitudes yields mean scores of -5.26 for the duller teachers and -4.03

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for the brighter teachers. The difference is not statistically significant.

The correlation coefficient obtained for the variables of Alpha score and Socialization score for the teacher group is of insignificant size, and has a P.E. almost as large as itself. The coefficient is $+.11 \pm .083$. Socialization and intelligence must be reckoned as nearly independent variables, for the teacher group.

2. DETAILED ANALYSIS

A number of statistically significant differences appear when the duller and brighter teachers are compared in their reactions to the same sets of items which Hart used in his comparison of the leaders of social progress with his control group (Table 585).

The duller teachers rate superior to the brighter on sets of items which suggest insensitiveness to social opinion and indifference toward personal comfort.

The brighter teachers rate superior on sets of items which suggest general altruism, international and interracial mindedness, interest in economic justice, intellectuality and craving for truth, objection to repression of freedom of speech, intellectual interest in religion, and indifference to certain miscellaneous

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interests.

Two sets of items appear under the heading "lack of sentiment." The duller teachers rate as superior on one of these, the brighter as superior on the other. The apparent discrepancy is due to the particular items included in the two sets. All of these items have been considered in the earlier discussions of this chapter.

H. SUMMARY

1. General. The groups of duller and brighter teachers represent the lower and upper halves, respectively, of the distribution of teachers for Army Alpha scores. The differentiation thus made is not correlated with age or training.

2. Social and Economic Background. The brighter teachers come from homes where the parents have had less schooling. More of the brighter teachers are oldest children, and more of the duller teachers are youngest children. More of the brighter teachers state that they take after neither parent and that neither parent was dominant in their families. More of the brighter teachers declare that they had a desire to run away from home, but other evidence of more unsatisfactory early conditions in their homes is lacking.

3. Intelligence. The basic factor in the selection of groups d and s is that of intelligence, as measured by

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Army Alpha.

4. Commonality of Response. The brighter teachers make a much higher score for commonality of response. This may mean that the brighter teachers are more extroverted, since intelligence is positively correlated with the commonality score. A fairly reliable positive correlation, although low in degree, maintains here.

5. Leisure time activities. No significant difference appears in total score for leisure time activities, and the only significant difference for the partial scores is for light entertainment, in which the duller teachers indulge more often. The major difference is in attendance at motion picture shows.

6. Attitudes and interests. The duller teachers are more interested in financial success, sport and outdoor recreations, certain indoor recreations, manual work and mechanical matters, managing people, personal family relationships, and teaching. The duller teachers have somewhat lower tastes in reading and recreation, are less concerned about social opinion, are less sentimental, less sensitive to discomfort or unpleasantness, and care less for friendship. In social attitudes, the duller teachers care less about religion, labor problems, international relations, negro welfare, etc. They believe more in statements expressive of a

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narrow patriotism. The duller teachers care somewhat more for occupations involving mental activity and contacts with people, and express a dislike for fewer occupations than do the brighter teachers.

7. Socialization. Although no significant difference appears in general socialization score, the brighter teachers resemble the leaders of social progress in more of the details which go to make up the picture of socialization, notably in general altruism, international and interracial mindedness, interest in economic justice, intellectuality and craving for truth, objection to repression of freedom of speech, and intellectual interest in religion. On the other hand, the duller teachers are superior in their relatively greater insensitiveness to social opinion and indifference toward personal comfort.

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CHAPTER IX. COMPARISON OF DULLER SOPHOMORES WITH BRIGHTER SOPHOMORES

A. GENERAL

Groups T and U were selected on the basis of a combination of the Army Alpha score yielded by the test program of the present research with the score on Form 5 of the Ohio State University Intelligence Test, which had been administered to the sophomores several weeks before the testing for the present research was carried out. It was desired to let group T, the duller sophomores, consist of the sophomores below the median, in the distribution of the combined scores, and group U of those above the median. The first step was that of selecting the subjects for whom the scores were available both upon Alpha and the O. S. U. examination. 81 cases were found. Separate tabulations were made for the Alpha Scores and the O. S. U. scores of these groups. The standard deviation for each distribution was then derived. The standard deviation for the O. S. U. scores proved to be 45.4, while that for the Alpha scores was 17.03. The ratio between these standard deviations is 2.66.

Were it desired to weight the Alpha scores and the

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O. S. U. scores equally in the combined scores, it would be necessary to multiply each Alpha score by 2.66 before adding it to the O. S. U. score. However, it was arbitrarily decided to give the O. S. U. score double weight since the test was longer and given earlier than the Alpha test. Accordingly, the Alpha score for each subject was multiplied by 1.33, the result being then added to her O. S. U. score.

A distribution of these combined scores was then made. The median point was determined, and those below the median were regarded as members of group T, those above the median as members of group U.

Mean ages for groups T and U are almost identical (19.84 and 19.75 respectively, Table 587), and intelligence is the only factor on which selection of the groups depends.

B. SOCIAL AND ECONOMIC BACKGROUND

1. ECONOMIC AND EDUCATIONAL

No significant difference appears for the education of the fathers of the duller and brighter students (Table 586). The mothers of the duller students had somewhat less education, on the average.

The mean number of children in the families from which the duller students come was 3.32 (Table 587).

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The mean for the brighter was 2.80. The difference is not statistically reliable, however (862 chances in 1000).

More of the brighter students rate their financial circumstances as poor, and more of the duller students rate theirs as well-to-do.

The duller students come from homes in better financial circumstances, but with possibly less educational background and slightly larger families.

2. SOCIAL BACKGROUND

A slight tendency appears for the brighter students to report narrower family acquaintanceship. No significant difference appears regarding social adaptation, as measured in terms of whether the family was more often entertained or more often did the entertaining. The trend, however, is for the duller students to report in more cases that their families were more often entertained. This seems to indicate somewhat better social adaptation on their part, the results harmonizing with those regarding the range of family acquaintanceship.

3. FAMILY RELATIONSHIPS

More of the brighter students were oldest children

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or youngest children, while more of the duller students were in between the oldest and the youngest. The favored position in the family for the brighter students is that of the oldest child.

There is no significant differences in the responses to the question regarding whether the subject was treated better or worse than her brothers or sisters, although there appears a tendency for more of the brighter students to say they were treated better.

More of the duller students state that they were influenced by both parents equally, while more of the brighter students state that they were influenced by one or the other parent, in most cases more by the mother.

4. EARLY ADAPTATION

No statistically significant differences appear, although there is a tendency for more of the brighter students to desire a change in their early environmental conditions.

5. SUMMARY

The duller students come from families somewhat better off financially, according to their reports, and probably better socially adapted. More of them were in between the oldest and youngest children, hence

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presumably not given especial attention. More of them state, in fact, that they were treated equally with the other children, and more of them say that they were influenced by both parents equally. The tendency is toward more normal social reactions and adaptation on the part of the duller students, i.e., more extroverted reactions from this group.

C. INTELLIGENCE

Intelligence is the basic difference between groups T and U. For a full description of the selection of these groups, see section A above.

D. COMMONALITY OF RESPONSE

There is no statistically significant difference in scores for commonality of response, between these two groups (Table 587). A very slight tendency, however, appears for the duller students to get a higher commonality score. The means are 32.74 and 31.62 for the duller and brighter students, respectively (reliability 614 chances in 1000). This slight tendency is in agreement with the earlier suggestion that the duller students may be more extroverted.

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E. LEISURE TIME ACTIVITIES

1. TROW TOTAL ACTIVITIES SCORE

Although the differences between the duller and brighter students in total number of leisure time activities reported is not statistically reliable, the trend is for the brighter students to indulge in more such activities (Table 587). The means are 135.25 for the duller and 147.75 for the brighter students. The difference has a reliability of 819 chances in 1000.

2. TROW PARTIAL SCORES

a. Trow Partial 1. Uplift Activities

The mean score for the brighter students is higher than that for the duller students (Table 587). More of the duller students state that they paid no visits to museums, while more of the brighter students attended no symphony concerts (Table 588). More of the brighter students go to church regularly.

b. Trow Partial 2. Social Activities

Practically the same number of social activities are reported for the duller and brighter students (Table 587).

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c. Trow Partial 3. Light Entertainment

Although practically the same mean scores are found for the duller and brighter students (Table 587), more of the duller students than of the brighter attended one or more plays or one or more vaudeville performances (Table 588).

d. Trow Partial 4. Physical Exercise

Substantially the same mean scores are found here (Table 587).

e. Trow Partial 5. Non-Professional Books Read

The duller students have a higher average score, the mean scores being 17 for the duller and 10 for the brighter students (Table 587).

F. ATTITUDES AND INTERESTS

1. ATTITUDES TOWARD VARIOUS PERSONAL ACTIVITIES AND SATISFACTIONS (Tables 589-602)

I-1. Success in work (Table 589). DO A GOOD PIECE OF WORK receives strong positive reactions from 19% more of the brighter students.

So far as this one item is concerned, there is a

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positive correlation between interest in success in work and intelligence, for the sophomores.

I-2. Financial success (Table 590). THRIFTY PEOPLE are disliked by 11% more of the brighter students. WIN OUT IN THE FINANCIAL WORLD is liked by 18% more of the duller students. SUCCEED IN BUSINESS is liked by 14% more of the duller students. All of these differences are of good reliability.

Interest in financial success is negatively correlated with intelligence, for the sophomores.

I-3. Uncomfortable or unpleasant personal experiences (Table 591). 12% more of the duller students give strongest negative reactions to HAVE AN OPERATION. 13% more of the brighter students give strong negative reactions to HEAR A CARELESS PLAYER POUND A PIANO. These differences are fairly reliable. 14% more of the duller students give strong negative reactions to UNEXPECTEDLY TOUCH A DEAD BODY. This difference barely fails to meet the statistical criterion.

The brighter students seem to mind the noisy piano more, the duller students to care more about operations or the shock of unexpectedly touching a dead body. Whether the verbal reactions actually Parallel reactions in life situations cannot be stated.

I-4. Sport and outdoor recreation (Table 592) More of the duller students like SPORTING PAGES, SPORTING

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NEWS, and BASEBALL NEWS. For the first two items the differences are highly reliable, while for the latter, the difference is very small. More of the duller students also dislike BASEBALL NEWS, the difference being reliable. This means that more of the brighter students are neutral to BASEBALL NEWS. More of the brighter students like FISHING and more of the duller students dislike FISHING. More of the duller students like DRIVING AN AUTOMOBILE, and more of them like PLAYING GOLF. For DRIVING AN AUTOMOBILE the difference is fairly reliable, while for PLAYING GOLF the difference does not quite meet the statistical criterion of reliability.

For the actual recreations listed here, there are but small differences correlated with intelligence. FISHING is preferred by the brighter, DRIVING AN AUTOMOBILE by the duller students. The brighter students are more indifferent to BASEBALL NEWS, SPORTING PAGES, and SPORTING NEWS. These types of reading matter are more attractive to the duller students.

I-5. <u>High grade reading and other leisure time activities</u> (Table 593). BOOKS THAT HAVE STOOD THE TEST OF TIME are liked by more of the duller students. The difference is reliable. Likewise PHILOSOPHY is

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liked by more of the duller students. This difference is not quite reliable enough to meet the statistical criterion. ATLANTIC MONTHLY is disliked by more of the brighter students. The difference is reliable. On the other hand, THE CLASSICS are liked by more of the brighter students, EDITORIALS receives strong positive reactions from more of the brighter students, and REVIEW OF REVIEWS is liked by more of the brighter students. The first of these differences is of good reliability, the second of fair reliability, and the third of too low reliability to be trusted.

Three of these six differences point to greater interest by the brighter students in high grade reading, while the three others point to greater interest by the duller students. Only two of these differences are over 15%, and of these, one is in one direction, and the other in the opposite. It may be concluded that there is no clear relationship between intelligence and taste for high grade reading, for the sophomores measured.

I-6. Popular reading and other leisure time activities (Table 594). LOVE STORIES are disliked by 12% more of the brighter students. DETECTIVE STORIES, on the other hand, are liked by 24% more of the brighter students and disliked by 21% more of the duller students. SHORT STORY MAGAZINES receive strong positive reactions

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from 18% more of the duller students. THE AMERICAN MAGAZINE receives strong positive reactions from 21% more of the duller students. MARY PICKFORD is disliked by 13% more of the duller students, liked by 13% more of the brighter students. COWBOY MOVIES are liked by 10% more of the duller students. All of these differences meet the statistical criterion except for the positive reactions to MARY PICKFORD.

DETECTIVE STORIES and MARY PICKFORD appear to be more popular, or less in disfavor, with the brighter students. On the other hand, LOVE STORIES, SHORT STORY MAGAZINES, AMERICAN MAGAZINE, and COWBOY MOVIES are liked by more of the duller students, or disliked by more of the brighter students. Nearly the same lack of relationship between intelligence and taste seems to obtain for the items in this list as for those in the preceding. The differences again are practically all small, three of the six differences being below 15%. The largest difference is one of 24%.

I-7. Low grade reading and other leisure time activities (Table 595). SMART SET receives strong negative reactions from 10% more of the duller students, but the total percentage of negative reactions for the brighter students is slightly larger than that for the duller students. There is no very significant difference here.

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Taking into account the three groups of items listed as high grade, popular, and low grade reading and other leisure time activities, no clear correlation can be made out between intelligence and taste, for the sophomores.

I-8. Humor (Table 596). 10% more of the duller students dislike "JUDGE," and 12% more of them like "LIFE." The first difference happens to be more reliable than the second, since smaller numbers are involved. 17% more of the brighter students give strong positive reactions to HUMOROUS BOOKS. 15% more of the duller students dislike CHARLIE CHAPLIN, while 11% more of the brighter students like the motion picture comedian. None of the differences for these items is of really good reliability, and for the positive reactions to "LIFE" and CHARLIE CHAPLIN the reliability is below the statistical criterion.

The brighter students appear to be somewhat more interested in humor than the duller, as shown by the reactions to the three items which are clearly differential, "JUDGE," HUMOROUS BOOKS, and CHARLIE CHAPLIN. The correlation is not marked, however.

I-9. General curiosity (Table 597). Only one of the five items in this list is clearly differential. Reading ABOUT HOW PEOPLE THINK is disliked by more of

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the brighter students. The difference is reliable.

The single difference found is small, of only 12%, and not enough to show a clear tendency for the items in this group. In general, the duller and brighter students give about the same reactions to the stimuli suggesting general curiosity.

I-10. Scientific interest (Table 598). The duller teachers give more strong positive reactions to CLEAR THINKING, and more of the strongest positive reactions to ABOUT EVOLUTION. The brighter students give more negative reactions to DO RESEARCH WORK. The first of these differences is of good reliability, the second of fair reliability, and the third fails to meet the statistical criterion.

All of these differences suggest that the duller students attach greater weight to general scientific curiosity. It must be noted that 100% of the sophomores, whether bright or dull, like CLEAR THINKING, and that equal percentages of bright and dull students like DISCOVER TRUTH; also that slightly more of the brighter students than of the duller students like DO RESEARCH WORK and ABOUT SCIENCE, and that there is only a very slightly larger percentage of duller students who like reading ABOUT EVOLUTION. While to a certain number of these items the duller students attach greater

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significance, in direction of reactions the brighter students rate with the duller. The differences appear in the weight given the reactions. In this respect, the duller students are the more interested.

I-11. Manual and mechanical interests (Table 599). More of the brighter students like WORKING WITH YOUR HANDS, SCIENTIFIC AMERICAN, and POPULAR MECHANICS, and more of them give strong positive reactions to FIND OUT HOW THINGS WORK. All of these differences meet the statistical criterion of reliability, and three of them are of excellent reliability.

In manual and mechanical interests, the brighter students rate higher than the duller students. The correlation between intelligence and these traits is fairly well marked.

I-12. Music (Table 600). 21% more of the brighter students like PLAY IN AN ORCHESTRA, and 11% more of them like HEAR SYMPHONIES. The first difference is of good reliability, the second of reliability below the statistical criterion.

Interest in music, so far as these two items indicate, appears to be correlated with intelligence, for the sophomores measured.

I-13. Oral-self-expression (Table 601). 14% more of the duller teachers like TELLING A STORY, and 17%

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more of the brighter students dislike this item. The differences are reliable. 10% more of the brighter students dislike INTERVIEWS, but this difference is not of reliability great enough to meet the statistical criterion.

Reactions yielding significant differences are found for only one item in this list. The evidence is not conclusive that there is any relationship between intelligence and interest in oral self-expression.

I-14. Rural or urban residence (Table 602). No significant differences appear for the two items listed here.

2. ATTITUDES TOWARD VARIOUS PEOPLE AND RELATIONSHIPS WITH PEOPLE

(Tables 603-616)

II-1. Managing people, leadership (Table 603). The more intelligent sophomores give more strong positive reactions to HAVE AUTHORITY and DO EXECUTIVE WORK. The first of these differences is of high reliability, the second of fair reliability. On the other hand, more of the brighter students dislike DO EXECUTIVE WORK. The percentages of negative reactions to this item are low, 3% for the duller and 17% for

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the brighter students, but the difference is of good reliability. In the total percentages of positive reactions to DO EXECUTIVE WORK, the duller and brighter students are about even. PEOPLE WHO ASSUME LEADERSHIP are disliked by 13% more of the brighter students. The difference is fairly reliable.

There appears to be something of a tendency for the brighter students to feel more strongly about managing people and leadership. More of them give strong positive reactions to HAVE AUTHORITY, and more of them give strong positive reactions or negative reactions to DO EXECUTIVE WORK. The fact that more of them dislike PEOPLE WHO TEND TO ASSUME LEADERSHIP suggests that they themselves may care more about leadership. On the whole, the brighter students appear to care somewhat more for managing people and leadership than the duller students. The evidence is not conclusive enough to establish this difference firmly.

II-2. Activities in which social contacts are important (Table 604). PICNICS is the only item which yields a difference of good reliability. 11% more of the brighter students dislike PICNICS. Two other items, CHECKERS and AMUSEMENT PARKS, are each disliked by 11% more of the brighter students, but the differences for these items are not reliable enough to meet the criterion.

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No clear difference in interest in social contacts appears for the reactions to these items. The three items which suggest differences may perhaps be classified together as not necessarily demanding much intellectual activity for their enjoyment, although checker devotees would doubtless deny this statement. These items are PICNICS, AMUSEMENT PARKS and CHECKERS.

II-3. Activities in which social contacts are at a minimum (Table 605). No significant differences appear for the two items listed here. Barely 10% more of the brighter students dislike BEING LEFT TO YOURSELF, but the difference is not reliable enough to be accepted.

II-4. Conformity to social usage (Table 606). 11% more of the duller students and 0% of the brighter students give the strongest positive reactions to DO THE PROPER THING. The positive reactions to this item, however, are given by 85% and 89% respectively, of the duller and brighter students, the significant difference being only for the strongest positive reaction. ABOUT WHAT IS PROPER TO WEAR receives 15% more strong positive reactions from the brighter students. The difference just meets the statistical criterion. Strong reactions in a negative direction are given to the stimulus BE IN INFORMAL CLOTHES AT A FORMAL AFFAIR by 15% more of the brighter students, but the total percentages of

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negative reactions are 12% greater for the duller students. Each of these differences is fairly reliable.

In terms of total positive or negative reactions to the stimuli in this list, neither the brighter nor the duller students appears to surpass the other in interest in conformity to social usage. In terms of strong reactions the brighter students appear to be slightly more concerned.

II-5. Susceptibility to social opinion (Table 607). The one item in this list which is clearly differential is BE CUT BY AN ACQUAINTANCE. 14% more negative reactions are given to this stimulus by the brighter students. The difference is highly reliable.

Only one item out of the five which might indicate susceptibility to social opinion proves to be differential. No clear difference, therefore, appears between the duller and brighter students with regard to susceptibility to social opinion. The one significant finding indicates greater indifference on the part of the duller students.

II-6, 7, 8, 9, and 10. Family relationships (general), family relationships (personal), children, sentiment, home (Tables 608-612). MAKE DIVORCE HARDER receives the strongest positive reaction from 11% more of the duller students, although in total positive

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reactions the brighter students slightly surpass the duller. NEGLECT OF AGED PARENTS BY THEIR CHILDREN receives strong negative reactions from 19% more of the duller students. MORE HONORING OF PARENTS BY CHILDREN receives strong positive reactions from 21% more of the brighter students. ABOUT EUGENICS receives positive reactions from 11% more of the brighter students, but the difference is not reliable enough to meet the criterion.

FAIL TO HEAR FROM YOUR PARENTS, BROTHERS, OR SISTERS receives strong negative reactions from 16% more of the brighter students. On the other hand, RUDENESS TO ONE'S FATHER receives strong negative reactions from 13% more of the duller students. This difference is not reliable enough to meet the criterion.

12% more of the brighter students give the strongest positive reactions to HOW TO TRAIN CHILDREN, while 16% of the duller students and 0% of the brighter students dislike this stimulus. 16% more of the brighter students give strong positive reactions to reading ABOUT THE PROPER FEEDING OF CHILDREN.

Strong negative reactions are given by 22% more of the duller students to SEE CHILDREN LEFT MOTHERLESS. VERY OLD PEOPLE are liked by 15% more of the duller students. HAVE A BABY HOLD YOUR FINGER receives strong positive reactions from 18% more of the brighter students, on the other hand. Strong negative reactions are given by 11% more of the duller students to SEE A BIG BOY PICK

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ON A LITTLE FELLOW, but this difference is not reliable enough to meet the criterion.

No clear differences appear in the reactions to MAKE IMPROVEMENTS IN YOUR HOME and LADIES HOME JOURNAL.

The foregoing differences may be summarized as follows, including the differences over 10% where the statistical criterion is not fully met. Greater interest in family relationships, children, sentiment, etc., is shown by the duller students in their reactions to the following items: MAKE DIVORCE HARDER, NEGLECT OF AGED PARENTS BY THEIR CHILDREN, RUDENESS TO ONE'S FATHER, SEE CHILDREN LEFT MOTHERLESS, SEE A BIG BOY PICK ON A LITTLE FELLOW, and VERY OLD PEOPLE. On the other hand, greater interest in family relationships, etc., is shown by the brighter students in their reactions to the following: ABOUT EUGENICS, MORE HONORING OF PARENTS BY CHILDREN, FAIL TO HEAR FROM YOUR PARENTS, BROTHERS OR SISTERS, HOW TO TRAIN CHILDREN, ABOUT THE PROPER FEEDING OF CHILDREN, and HAVE A BABY HOLD YOUR FINGER. With the exception of the items which suggest an intellectual interest in learning about child care, and possibly reading ABOUT EUGENICS, no clear reason appears for the differences found. For these particular items, something of an interest in study is doubtless acquired, and such an interest might be assumed to be more natural for the brighter students. On the whole, the duller and brighter students appear not to differ materially in their interest in family relationships, home, children, and sentiment.

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II-11. Friendship (Table 613). More strong negative reactions are given by the duller students to BE LONELY, and MOVE AWAY FROM FRIENDS. These differences, which are not reliable enough to meet the statistical criterion, are the only ones of 10% or over appearing for this list of items.

No definite correlation appears between intelligence and interest in friendship, for the sophomores.

II-12. Persons liked or disliked because of their physical traits (Table 614). None of the items listed here shows a difference greater than 5% between the reactions of the duller and brighter students.

II-13. Persons liked or disliked because of their emotional or behavior traits (Table 615). SELF-CONSCIOUS PEOPLE are liked by 11% more of the duller students and disliked by 17% more of the brighter students. The stimulus A POOR LOSER receives the strongest negative reactions from 0% of the duller students and 14% of the brighter students. 10% more of the brighter students dislike EMOTIONAL PEOPLE, but this difference is of low reliability.

The differences noted suggest that the brighter students may be slightly more intolerant of people who are objectionable because of their emotionality. The differences are not numerous or marked enough to

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give assurance in this statement, however.

II-14. Persons liked or disliked because of their intellectual traits (Table 616). PEOPLE WITH OPINIONS OPPOSITE TO YOUR OWN are liked by 19% more of the duller students, while 11% more of the duller students like PROGRESSIVE PEOPLE. The first of these differences is of good reliability, the second of low reliability.

It is interesting to note that the duller students are more tolerant of PEOPLE WITH OPINIONS OPPOSITE TO THEIR OWN. Possibly duller students do learn a more respectful and submissive attitude toward intellectual authority. The difference with respect to PROGRESSIVE PEOPLE is not clear enough to warrant acceptance, but it is possible that the duller students may be more inclined to like PROGRESSIVE PEOPLE. It may be noted that they also are slightly more inclined to like CONSERVATIVE PEOPLE, the difference being one of 7% for this latter item. If these two small differences should be supported by further evidence, they would tend to confirm the hypothesis that the duller students are more submissive to intellectual authority, in this case, to the authority of those who take definite viewpoints, in either a progressive or conservative direction.

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3. ATTITUDES TOWARD VARIOUS SOCIAL, MORAL, AND RELIGIOUS PROBLEMS

(Tables 617-629)

III-1. Religion (Table 617). The differences of statistical reliability here noted are in general such as to indicate greater interest in religion and religious orthodoxy on the part of the brighter students. 17% more positive reactions are given by the brighter students to COMMUNE WITH THE GREAT SPIRIT. 28% more strong positive reactions are given by them to MORE USE OF PRAYER. They give 38% more strong positive reactions, and 14% more total positive reactions to the statement, BY MEANS OF PRAYER ONE MAY, IN TIME OF NEED, GET HELP FROM SPIRITUAL POWERS OUTSIDE HIMSELF. 17% more of them like THE BIBLE. 12% more of them give strong positive reactions to the statement, IT IS IRREVERENT OR SACRILEGIOUS TO PUT JESUS CHRIST INTO THE SAME CLASS WITH BUDDHA, CONFUCIUS, OR SOCRATES. 20% more of them like RELIGIOUS PEOPLE. All of these differences are of good or fair reliability. Lesser differences, of reliability from 800 to 899 chances in 1000, but pointing to the same conclusion, appear for three items. These are DISCUSS RELIGION, IRRELIGIOUS PEOPLE, and the statement, A CONSCIOUS PURPOSE, GREATER THAN THE PURPOSES OF MEN, WORKS FOR RIGHTEOUSNESS IN THE

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UNIVERSE. The only item which appears to show a difference in the opposite direction is FEEL THAT GOD HAS FORGOTTEN YOU, which receives 10% more of the strongest negative reactions from the duller students. On the other hand, the total number of negative reactions to this item is 5% greater for the brighter students.

The evidence is convincing that interest in religion is positively correlated with intelligence, for the sophomores. This may mean that the sophomores who are more in the state of religious doubt are the less intelligent ones. It is possible that the brighter students find it easier than the duller ones to come to an adjustment with regard to their religious beliefs.

One or two of the items suggest more conservative views, from the standpoint of religious orthodoxy, for the brighter students. The statement, IT IS IRREVERENT OR SACRILEGIOUS TO PUT JESUS CHRIST INTO THE SAME CLASS WITH BUDDHA, CONFUCIUS, OR SOCRATES, receives more strong positive reactions from the brighter students, but it should be noted that the total positive reactions to this statement are almost identical for the duller and brighter students.

III-2. Ethical values (Table 618). 10% more of the

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duller students give the strongest positive reactions to EVEN-HANDED JUSTICE and 28% more of the duller students give strong positive reactions to the statement, COURAGE AND HONOR ARE HIGHER VALUES THAN JOY AND HAPPINESS. For these two items the differences tend to disappear when the total positive reactions are taken into account.

The differences for the two items under this heading are a matter of emphasis rather than of direction of reaction. The duller students are more inclined to stress EVEN-HANDED JUSTICE and the truth of the statement quoted.

III-3. General interest in social progress (Table 619). The brighter students give 13% more of the strongest positive reactions to HELP MAKE THE WORLD HAPPIER and 14% more positive reactions to WORK FOR SOCIAL JUSTICE.

For the sophomores, intelligence is positively correlated with interest in social progress, although not to a highly marked degree.

III-4. Specific social reforms or wrongs to reform (Table 620). More strong positive reactions are given by the brighter students to BETTER HOUSING CONDITIONS and CHRISTMAS CHEER FOR THE POOR, and by the duller students to ABOLITION OF CHILD LABOR LAWS and MILK AND

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ICE FUNDS FOR BABIES. The debatable statement, KINDHEARTEDNESS IS WHAT ONE NEEDS MOST IN ORDER TO DO GOOD IN THE WORLD, does not show clear differences.

The brighter and duller students differ in the stress they put upon the proposed reforms. It cannot be said that the difference is one between stress upon amelioration and stress upon fundamental reform, however. In general interest in the proposed reforms or means to reform, as expressed in the total positive reactions, there is no clear difference.

III-5. Prohibitory legislation (Table 621). No trustworthy difference appears for the two items under this heading. 11% more of the duller students give strong positive reactions to REPRESS GAMBLING, but the difference is of low reliability.

III-6. Freedom of speech and opinion (Table 622). While 21% more of the brighter students give neutral or even positive reactions to the item REPRESSION OF FREE SPEECH, 20% more of the duller students give strong negative reactions to it. These differences are highly reliable. 14% more of the duller students like FREE DISCUSSION OF SOCIAL AND POLITICAL QUESTIONS. This difference is slightly below the statistical criterion of reliability.

These differences suggest strongly that intelligence and interest in freedom of speech and opinion are

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negatively correlated, for the sophomores. This rather surprising finding is doubtless correlated with the fact that the duller students are less interested in religion and less orthodox than the brighter students.

III-7. Feminine propriety (Table 623). None of the duller students and 11% of the brighter students give the strongest negative reaction to SMOKING BY WOMEN. This difference is of good reliability. On the other hand, in total negative reactions, the duller and brighter students do not differ appreciably. About half of each group dislike SMOKING BY WOMEN. 9% more of the brighter students like SMOKING BY WOMEN, and this difference, although small, is of reliability just below the statistical criterion.

Intelligence does not appear to be closely correlated with concern about feminine propriety, for the sophomores.

III-8. Problems of capital and labor (Table 624). Positive reactions are given by more of the duller students to the following items: ABOUT LABOR PROBLEMS, ABOUT SOCIALISM, COLLECTIVE BARGAINING, UNIONIZE INDUSTRY, and WORKING CLASS SOLIDARITY. More strong negative reactions are likewise given by the duller students to LARGE FORTUNES HAVE BEEN MADE ONLY BY HONESTY, BRAINS, AND HARD WORK. All of these differences are of good reliability. LABOR AND SOCIALIST DAILIES are disliked

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by 10% more of the brighter students. This difference, of low reliability, is in agreement with those already mentioned. The only differences in opposition to the trend of those mentioned are for the item ABOUT REVOLUTION BY THE WORKERS. This receives positive reactions from 10% more of the brighter students and negative reactions from 10% more of the duller. The differences are of reliability below the statistical criterion.

All of the reliable differences, and one of the two unreliable differences mentioned, point to greater interest in labor problems and greater sympathy with the labor point of view on the part of the duller students. Intelligence is negatively correlated with interest in labor problems and sympathy with labor, for the sophomores. It may again be recalled that intelligence is positively correlated for the sophomores with religious conservatism and negatively correlated with interest in freedom of speech and opinion.

III-9. Political interest (Table 625). The one item listed here is not differential.

III-10. International relations (Table 626). 14% more of the duller students dislike HATRED BETWEEN NATIONS, while 12% more of the brighter students give positive reactions to this item. The differences, both

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of fair reliability, may not be trusted since the item was listed under the caption "proposed reforms," and the more intelligent students may have understood the item to mean reform of HATRED BETWEEN NATIONS. CONQUEST OF WEAK NATIONS BY STRONG NATIONS receives 11% more negative reactions from the brighter students, but 11% more of the duller students give strong negative reactions. The difference for the strong negative reactions is of low reliability. WORLD DISARMAMENT and A FEDERATION OF THE WORLD are liked by 17% more and 23% more respectively of the duller students. 15% more of the duller students accept as true the statement, NO COUNTRY WHICH HAD AS GOOD LAWS, OR A GOVERNMENT AS GOOD, OR A CULTURE AS GOOD IN ANY WAY AS WE PEOPLE OF THE UNITED STATES HAVE, and 18% more of the brighter students give strong negative reactions to this statement. Three other statements, the reactions to which might suggest differences with regard to narrow or broad patriotism, are not differential.

The differences are not clear cut with regard to interest in <u>international relations</u>. Two or three of the differences suggest stronger interest in good <u>international relations</u> on the part of the duller students. The differences in reactions to one of the four statements listed in this section suggest a

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narrower patriotism on the part of the duller students. It would certainly be improper to allege that interest in good international relations is positively correlated with intelligence, for the sophomores.

III-11. Punishment of crime (Table 627). The duller students give 16% more positive reactions to ABOLITION OF CAPITAL PUNISHMENT and the brighter students 14% more negative reactions. These differences are fairly reliable. 20% more of the duller students give strong negative reactions to the statement CRIME CAN BEST BE REDUCED BY PUNISHING EVERY CRIMINAL SEVERELY. This difference is of high reliability.

Intelligence is positively correlated with belief in the efficacy of, and liking for, severe punishment of crime, for the sophomores. More of the duller students dislike CAPITAL PUNISHMENT, and reject severe penalties as the best means of reducing crime.

III-12. Negroes (Table 628). Statistically reliable differences are not found for the two items listed here. 10% more of the brighter students give strong positive reactions to FAIR TREATMENT FOR COLORED PEOPLE, but likewise 10% more of the duller students give strong positive reactions to SOCIAL JUSTICE FOR NEGROES. Both of these differences are of low reliability.

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Intelligence and interest in negro welfare, as expressed in reactions to these stimuli, seem not to be correlated for the sophomores.

III-13. Schools and teaching (Table 629). 16% more of the brighter students give strong positive reactions to BETTER PAY FOR SCHOOL TEACHERS. On the other hand, the total percentage of positive reactions to this stimulus is 18% greater for the duller teachers. 13% of the duller students and only 3% of the brighter students dislike TEACHING. All of these differences are of fair or high reliability. 12% more of the brighter students give strong positive reactions to ELECT GOOD SCHOOL BOARDS, but this difference is of reliability below the statistical criterion.

The duller students appear to be somewhat less interested in TEACHING and less concerned about ELECT GOOD SCHOOL BOARDS. More of them like BETTER PAY FOR SCHOOL TEACHERS, but they do not stress this reaction to the same degree as do the brighter students.

4. TOWARD VARIOUS OCCUPATIONS

More of the duller students like the following occupations: ATHLETIC DIRECTOR, MISSIONARY, PRIVATE SECRETARY (SOCIAL) and SOCIAL WORKER (Table 630). More of the brighter students dislike the following:

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ATHLETIC DIRECTOR, FARMER, NEWSPAPER REPORTER, and SOCIAL WORKER.

More of the duller students like the following occupations: DANCING TEACHER, DRESSMAKER, EMPLOYMENT MANAGER, INTERIOR DECORATOR, MUSICIAN, NOVELIST, POET, RETAIL SALES CLERK, and SCIENTIFIC RESEARCH WORKER. More of the brighter students dislike the following: DRAFTSMAN, COOK, EMPLOYMENT MANAGER, LAWYER, LIBRARIAN, MILLINER, NOVELIST, STENOGRAPHER, and TEACHER.

Comparison of these lists with the classification arrived at by twenty-four teachers suggests that the brighter students are more interested in activities which have their major contacts with things or with words or books, and which are regarded on the whole as somewhat more romantic. There are many exceptions to this statement, however.

5. GENERAL TENDENCIES

Four of the tentative measures of general tendencies show reliable differences (table 587).

The duller students appear to have a wider range of occupational distastes, tolerance for people of more varied types, and a greater interest in problems of capital and labor.

The brighter students, on the other hand, have a

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wider range of occupational interests.

6. SUMMARY

The duller students are more interested in: (a) financial success, reading about sports, and items suggesting general scientific interest; (b) people with opinions opposite to themselves; (c) free speech and opinion, labor problems, labor viewpoints, a narrow patriotism, and better pay for school teachers; (c) occupations involving people and which are more apt to be regarded as prosaic.

The brighter students are more interested in: (a) success in work, humor, manual work and mechanical matters, and music; (b) managing people and leadership, conformity to social usage, and probably items suggesting susceptibility to social opinion; (c) items suggesting a general interest in religion, religious orthodoxy, social progress, severe punishment of crime, and teaching; (d) occupations involving things or books or words and which are more apt to be considered romantic.

The duller students show a wider range of occupational distastes, a wider range of tolerance for types of people, and a greater interest in labor problems, while the brighter students show a wider range of occupational interests.

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G. SOCIALIZATION

1. GENERAL

No significant differences appear in mean socialization score for the duller and brighter students (Table 587). The mean scores are -11.79 and -12.95 for the duller and brighter students, respectively. Intelligence and socialization appear to be largely dissociated for the students.

2. DETAILED ANALYSIS

The duller students rate more like Hart's leaders of social progress, according to their reactions on the following groups of items: international and interracial mindedness, interest in economic justice, objection to repression of freedom of speech, indifference to religious creeds, unconventionality, and indifference to certain miscellaneous interests (Table 631). The brighter students rate as superior on the following: lack of sentiment, indifference toward light reading, and indifference toward business success.

H. SUMMARY

1. General. The duller and brighter students were discriminated on the basis of combined scores on

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Alpha and the Ohio State University examination, in which the O. S. U. test was given double the weight of the Army Alpha. Age differences do not appear.

2. Social and economic background. The duller students come from families somewhat better off financially, probably better socially adapted, and in which there were more apt to be children both older and younger than themselves. The duller students were probably treated more equally in comparison with their brothers and sisters and state in more cases that they were influenced by both parents equally. Probably the family background was such as to make the duller students more extroverted and to give them more normal social reactions and adaptation.

3. Intelligence. Intelligence was the only criterion by which the duller students were separated from the brighter.

4. Commonality of response. There is a slight tendency for the duller students to get higher scores on commonality of response, and although this is not statistically significant, it agrees with the suggestion regarding extroversion and introversion.

5. Leisure time activities. There is a tendency for the brighter students to indulge in more leisure time activities, although the difference is not

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statistically significant. More of the brighter students indulged in uplift activities, especially regular church attendance, but the duller students read more non-professional books, according to their report.

6. Attitudes and Interests. The duller students are more interested in financial success, reading about sports, general scientific curiosity, free speech and opinion, labor problems and labor viewpoints, a narrow patriotism, better pay for school teachers, and occupations involving relationships with people and which are regarded as more prosaic.

The brighter students are more interested in success in work, humor, manual work and mechanical matters, music, managing people and leadership, conformity to social usage, avoidance of unfavorable social opinion, items suggesting general interest in religion, religious orthodoxy, social progress, severe punishment for crime, teaching, and occupations involving things or books or words, and which are regarded as more romantic.

The duller students show a wider range of occupational distastes; the brighter a wider range of occupational interests. The duller students show tolerance for more types of people and are more interested in labor problems, as such.

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7. Socialization. Although no significant difference appears in total score for socialization, a detailed analysis of the factors involved in socialization reveals that the duller students are superior in international mindedness, interest in economic justice, objection to repression of freedom of speech, indifference to religious creeds, and unconventionality. The brighter students are superior in lack of sentiment, indifference toward light reading, and indifference toward business success.

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CHAPTER X. COMPARISON OF SOPHOMORES WITH MUSIC STUDENTS

A. GENERAL

The students in public school music have been described in Chapter II. In contrast to the sophomores, they are vocationally slanted, primarily toward musical careers. Teaching has been selected by them as a normal outlet for their musical talents and education, and they are already engaged in practice teaching.

At the same time, they are both as far advanced, on the average, beyond high school, as the sophomores, and are approximately a year and a half older. Tables 2 and 3 indicate the amount of training which the members of the music student group have had. The mean ages are 19.78 for the sophomores, and 21.36 for the music students (Table 633). The difference is, of course, highly reliable.

Age may contribute somewhat to the differences, but it seems likely that personal backgrounds, selection for musical education, and the type of training and experience which the music students have had, in contrast to the sophomores, are more potent factors.

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B. SOCIAL AND ECONOMIC BACKGROUND

1. ECONOMIC AND EDUCATIONAL

The parents of the music students had had more education, on the average, than the parents of the sophomores (Table 632). This is clearly revealed for the fathers, in the percentages for whom the highest educational institution finished was the grades, and likewise in the percentages finishing college. For the mothers, the differences are less marked, but a 13% difference appears when the percentages finishing less than the grades and finishing the grades are combined, and likewise a 13% difference when the percentages finishing normal school and finishing college are combined.

A slight difference appears in the average number of children per family (Table 633). The mean number of children in the families of the sophomores is 3.25. The corresponding figure for the music students is 2.94. The difference has a reliability of 802 chances in 1000.

No significant difference appears in the subjects' ratings of the financial circumstances of their families. On the other hand, the difference in average number of children suggests the probability that the families of the music students are slightly more well-to-do, while

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the differences regarding educational background are conclusive evidence that the cultural level of the families of the music students is superior to that of the families of the sophomores.

2. SOCIAL BACKGROUND

More of the sophomores state that the family acquaintanceship was not limited to people of the same religious belief. No significant difference appears for the extent to which the families of the sophomores and music students were more often entertained or more often did the entertaining.

3. FAMILY RELATIONSHIPS

More of the sophomores were oldest children. More of the music students were only children. No significant difference appears with regard to treatment as a child in comparison with brothers and sisters. The music students report in more cases that they take after both father and mother, in contrast to the sophomores who more commonly take after one parent or the other, usually the father. Differences are lacking regarding parent liked better and parent who has most influenced the subject. On the other hand, more of the sophomores report that neither parent was dominant in the family, while more of the music students

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report each of the parents as dominant.

4. EARLY ADAPTATION

No statistically reliable difference appears in regard to the desire to run away from home, although 11% more of the music students report that desire. The reliability of this difference is 891 chances in 1000. Actual running away from home is not differential. 11% more of the music students would desire a change in their home and other environmental conditions, but this difference fails to meet the statistical criterion. More of the sophomores would desire a wealthier environment, but more of the music students would desire more cheerful conditions, and possibly more refined playmates.

5. SUMMARY

The music students come from homes of better cultural background, and probably in better economic circumstances. The fact that more of the sophomores would desire a wealthier environment may add to earlier facts cited in support of this statement. The music students give reports which indicate that their homes were more limited with regard to social life, and probably less cheerful. They show greater dissatisfaction with their early environment. One or the other of the

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parents appears to have been dominant in a majority of the homes of the music students, in contrast to those of the sophomores. More of the music students were only children.

Taken together, these facts seem to point to the possibility of greater introversion on the part of the music students. The home environment appears to have been somewhat less favorable to the development of good social life and interests, and somewhat more favorable to the development of intellectual interests.

C. INTELLIGENCE

The mean score for Army Alpha for the sophomores is 153.0 (Table 633). That for the music students is 138.8. As has already been noted, the mean for the sophomores is undoubtedly too high. There is no reason to believe that the mean for the music students is unreliable, however. It approximates very closely the mean score of 139.7 earlier reported for 208 University of Cincinnati sophomores.

D. COMMONALITY OF RESPONSE

The association test yields mean scores for commonality of association of 31.78 for the sophomores and 26.55 for the music students (Table 633). This difference, which is reliable, would seem to indicate

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greater extroversion on the part of the sophomores. Such a finding would be in line with the conclusions from the personal histories, earlier reported.

E. LEISURE TIME ACTIVITIES

1. TROW TOTAL ACTIVITIES SCORE

The mean number of total activities for the sophomores is 139.6 (Table 633). That for the music students is 119.1. The difference, which is highly reliable, must be interpreted in the light of the particular activities engaged in, and reported below.

2. TROW PARTICAL SCORES

a. Trow Partial 1. Uplift Activities

The sophomores participated in 23 uplift activities on the average, during the twenty weeks reported upon, and the music students in 40 (Table 633). More of the sophomores failed to attend any operas, symphony concerts, recitals, and to pay any visits to art galleries (Table 634). The differences with regard to musical events would naturally be expected. More of the music students failed to attend church at all, but more of them than of the sophomores attended church regularly. No difference is at hand regarding the extent to which the music students are employed in church choirs

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as organists, etc., but this would doubtless affect regular attendance upon church services.

b. Trow Partial 2. Social Activities

The difference between the means for social activities is not reliable (Table 633). The means are 40 for the sophomores and 47 for the music students. More of the music students failed to play any indoor games or to attend any social meetings, clubs, lodges, etc. (Table 634).

c. Trow Partial 3. Light Entertainment

The sophomores attended more of the events classified as light entertainment than did the music students (Table 633). The means are 35 and 26, respectively. More of the sophomores failed to attend any vaudeville performances and more of the music students failed to attend any athletic contests (Table 634).

d. Trow Partial 4. Physical Exercise

The sophomores took far more physical exercise than did the music students. The means are 34 and 10, respectively (Table 633). As has been noted earlier, the mean for the sophomores cannot be trusted, as it probably includes required gymnasium for some and

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only voluntary periods of exercise for others. Whatever the facts regarding required exercise may be, certainly the sophomores get more exercise than the music students. More of the music students failed to get any exercise in outdoor or gymnasium games, or in walks in the country (Table 634).

e. Trow Partial 5. Non-Professional Books Read

The sophomores report an average of 14 non-professional books read in twenty weeks, and the music students an average of only 7(Table 633). It is not certain to what extent books read for required English courses are included by the members of either group. Many of the music students as well as of the sophomores were attending such courses at the time of testing.

F. ATTITUDES AND INTERESTS

1. ATTITUDES TOWARD VARIOUS PERSONAL ACTIVITIES AND SATISFACTIONS (Tables 635-648)

I-1. Success in work (Table 635). 15% more of the music students give strong positive reactions to DO A GOOD PIECE OF WORK.

So far as the reactions to this item indicate, the music students are more interested in success in

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work.

I-2. Financial success (Table 636). SUCCEED IN BUSINESS receives 16% more strong positive reactions, PEOPLE WHO HAVE MADE FORTUNES IN BUSINESS 26% more positive reactions, and CONCENTRATION OF WEALTH 26% more positive and neutral reactions from the music students.

All of these differences point to greater interest in financial success, on the part of the music students. The music students are, of course, working in a vocational field, whereas the sophomores as yet are merely in the field of general education.

I-3. Uncomfortable or unpleasant personal experiences (Table 637). The only significant difference is for the item HEAR A CARELESS PLAYER POUND A PIANO. This is disliked strongly by 27% more of the music students.

The relationship between special interest in music and dislike for hearing a careless player pound a piano is obvious.

I-4. Sport and outdoor recreation (Table 638). More of the sophomores like or like strongly SPORTING PAGES, SPORTING NEWS, and BASEBALL NEWS. These differences are of good reliability. 10% more of the sophomores like EXPLORE STRANGE COUNTRY, but this

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difference is not of adequate reliability to meet the criterion. On the other hand, 13% more of the music students like DRIVING AN AUTOMOBILE. This difference is of good reliability.

The college sophomores are more interested in reading about sport, though differences with regard to actual outdoor recreations are inconsiderable. More of the music students like DRIVING AN AUTOMOBILE, but this difference cannot be interpreted without knowing the proportion of the two groups who have access to automobiles.

I-5. High grade reading and other leisure time activities (Table 639). More of the music students give the strongest positive reactions to BOOKS THAT HAVE STOOD THE TEST OF TIME and THE CLASSICS. More of them give positive reactions to BOOK REVIEWS, NEW REPUBLIC, and REVIEW OF REVIEWS. All of these differences, except the last, are of high reliability. There are no differences of 10% or more in the opposite direction, for this group of items.

It is interesting to note that the music students, who have had about the same amount of training in English as the sophomores, but whose education has laid a greater stress upon good taste in musical art, appear to have higher tastes than the sophomores with regard to literature.

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I-6. Popular reading and other leisure time activities (Table 640). More of the sophomores like LOVE STORIES and DETECTIVE STORIES, but more of the music students like THE RED BOOK MAGAZINE, AMERICAN MAGAZINE, and HAROLD BELL WRIGHT. The differences here with regard to literary items are not so consistent as those for the items under high grade reading, nor do they tend to point to higher taste by the music students. MUSICAL COMEDY and MARY PICKFORD are liked by 11% and 13% more, respectively, of the sophomores. 10% more of the sophomores dislike COWBOY MOVIES. The difference in negative reactions to COWBOY MOVIES is of reliability below the statistical criterion.

The only listed types of reading matter liked by more of the sophomores appear to be LOVE STORIES and DETECTIVE STORIES, types perhaps suggestive of interest in sentiment and adventure. It is interesting to note that the sophomores show greater interest in MUSICAL COMEDY and MARY PICKFORD, items which again may suggest interest in romantic sentiment.

I-7. Low grade reading and other leisure time activities (Table 641). SMART SET is liked by 12% more of the sophomores and disliked by 19% more of the music students. The other two items in this list are not differential.

SMART SET is a magazine of cheap and rather doubtful

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stories. The positive reactions here are not high, 18% for the sophomores and 6% for the music students, but they agree in trend with the greater interest in sentimental romance on the part of the sophomores.

I-8. Humor (Table 642). Only one item is differential here. This is WORKS OF MARK TWAIN, which receives 17% more of the strongest positive reactions from the sophomores. The difference is highly reliable, although the actual percentages are low, 22% for the sophomores and 5% for the music students.

Probably no inference may be drawn regarding general interest in humor, although with the exception of the reactions to "LIFE," the smaller differences found for the items in this list indicate slightly greater interest in humor for the sophomores.

I-9. General curiosity (Table 643). 13% more of the music students like reading ABOUT HOW PEOPLE THINK. 21% more of them give strong positive reactions to MEET PEOPLE WHO TALK INTERESTINGLY. 29% more of them like BELONG TO A CLUB FOR STUDY. The two remaining items yield differences below 10%, but in the same direction.

The music students show greater general curiosity

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than the sophomores, as indicated by the items in this list.

I-10. Scientific interest (Table 644). The strongest positive reaction is given by 12% more of the music students to the stimulus CLEAR THINKING. On the other hand, RESEARCH WORK receives 17% more positive reactions from the sophomores, and ABOUT SCIENCE receives 15% more strong positive reactions from the same group. ABOUT EVOLUTION receives 13% more positive reactions from the sophomores and 14% more negative reactions from the music students.

In intellectual interest in reading ABOUT SCIENCE and ABOUT EVOLUTION, and in interest in DOING RESEARCH WORK, the sophomores rate above the music students. On the other hand, the music students tend to place a higher valuation upon CLEAR THINKING.

I-11. Manual and mechanical interests (Table 645). More of the music students give positive or strong positive reactions to WORK WITH YOUR HANDS, FIND OUT HOW THINGS WORK, SCIENTIFIC AMERICAN, and POPULAR MECHANICS.

The evidence is clear that the music students are more interested in manual and mechanical matters. Whether this interest is correlated with the capacity for and development of motor skills necessary for

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mechanical performance is a matter which might well be investigated.

I-12. Music (Table 646). 31% more of the music students like HEAR SYMPHONIES and 45% more of them like PLAY IN AN ORCHESTRA. The statistical reliability of these differences is, of course, very high.

It would be strange indeed if these differences did not appear.

I-13. Oral self-expression (Table 647). More of the sophomores like, and more of the music students dislike, ARGUMENTS, TELLING A STORY, MAKING A SPEECH, and INTERVIEWS. The differences for the positive reactions are all highly reliable. The largest difference appears for TELLING A STORY, a difference of 36%. These differences all indicate greater interest in oral self-expression on the part of the sophomores. Presumably the music students express themselves more freely through their music. At any rate, they care less for the types of oral self-expression mentioned here.

I-14. Rural or urban residence (Table 648). 12% more of the sophomores like LIVING IN THE CITY and 11% more of the music students dislike this stimulus. LIVING ON A FARM is not differential.

Direct evidence is not at hand to indicate the relative proportions of the two groups who have been

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brought up in rural or urban communities. Without this information, one cannot interpret the differences which appear.

2. ATTITUDES TOWARD VARIOUS PEOPLE AND RELATIONSHIPS WITH PEOPLE

(Tables 649-662)

II-1. Managing people, leadership (Table 649). 22% more of the sophomores like DO EXECUTIVE WORK. 17% more of the music students dislike PEOPLE WHO TEND TO ASSUME LEADERSHIP, and 23% more of them dislike PEOPLE WHO ARE EASILY LED.

The sophomores care more about DO EXECUTIVE WORK, and are more neutral toward PEOPLE WHO TEND TO ASSUME LEADERSHIP and PEOPLE WHO ARE EASILY LED. For these latter two stimuli, the music students give at least as many positive reactions as the sophomores, as well as many more negative reactions. These findings may possibly be interpreted to mean that the sophomores care more about managing people, and have better relationships with people, - e.g., they are more tolerant of the two types of people named.

II-2. Activities in which social contacts are important (Table 650). BRIDGE is disliked by 11% more of the music students. The actual percentages of negative reactions are low, 8% for the sophomores and

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19% for the music students. 10% more of the sophomores like DANCING. The percentages of positive reactions are high for this item, 91% for the sophomores and 81% for the music students. CONVENTIONS are liked by 13% more of the sophomores, and disliked by 17% more of the music students. One other difference of over 10% may be mentioned, although it just barely fails to meet the statistical criterion. 11% more of the sophomores like CHECKERS.

The differences noted are all in agreement, in indicating that activities in which social contacts are important are of greater interest to the sophomores. This finding is in agreement with the suggestion in the preceding section, that the sophomores possibly have better relationships with people.

II-3. Activities in which social contacts are at a minimum (Table 651). The two items mentioned here do not reveal significant differences.

II-4 and 5. Conformity to social usage and susceptibility to social opinion (Tables 652 and 653). 12% more of the music students like DO THE PROPER THING. The other items under conformity to social usage reveal only minor differences. 12% more of the sophomores give negative reactions to BE JEERED AT. 18% more of them give strong negative reactions to NOT GET CREDIT FOR

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WHAT YOU DO. 11% more of them give strong negative reactions to BE GOSSIPED ABOUT, and also to BE CUT BY AN ACQUAINTANCE. The first three of these differences are of good or fair reliability, while the last one is of reliability below the statistical criterion.

The evidence is clear that the sophomores are more susceptible to social opinion. They are more sensitive to jeering, loss of credit for work done, gossip about them, and probably to a social "cut." On the other hand, there is a small difference (12%) to indicate that the music students care more about doing the proper thing. This perhaps means that the music students care more about conventionality and conformity to social usage.

II-6. Family relationships (general) (Table 654). 17% more of the sophomores like strongly HAVE DIVORCE HARDER, but 17% more of the music students like strongly MORE HONORING OF PARENTS BY CHILDREN, and give the strongest negative reactions to NEGLECT OF AGED PARENTS BY THEIR CHILDREN.

For discussion of these differences see below.

II-7. Family relationships (personal) (Table 655). RUDENESS TO ONE'S FATHER receives the strongest negative reactions from 11% more of the music students.

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14% more of them give strong positive reactions to GO WALKING WITH YOUR FATHER. 30% more of them give strong negative reactions to FAIL TO HEAR FROM YOUR PARENTS, BROTHERS OR SISTERS. 21% more of the sophomores, on the other hand, dislike HAVE YOUR CHILDREN PUT INTO AN INSTITUTION. These differences are of fair or good reliability. 12% more of the sophomores give strong positive reactions to LOYALTY TO ONE'S PARENTS, and positive reactions to ATTEND YOUR FAMILY REUNION. These last two differences just fail to meet the statistical criterion.

Five significant differences, in this group of items and in the group preceding, point to greater interest in family relationships on the part of the music students. The items which produce these differences are MORE HONORING OF PARENTS BY CHILDREN, NEGLECT OF AGED PARENTS BY THEIR CHILDREN, RUDENESS TO ONE'S FATHER, GO WALKING WITH YOUR FATHER, and FAIL TO HEAR FROM YOUR PARENTS, BROTHERS, OR SISTERS. Two significant differences point in the opposite direction. These are for the items MAKE DIVORCE HARDER and HAVE YOUR CHILDREN PUT INTO AN INSTITUTION. Minor differences, not of statistical reliability, but pointing likewise in the direction of greater interest by the sophomores, appear for the items LOYALTY TO ONE'S PARENTS, and

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ATTEND YOUR FAMILY REUNION. On the whole, the music students seem to care more about family relationships, particularly of a personal nature. It may be noted that practically all of the differences are for strong reactions, the sophomores and the music students not differing in the direction of their reactions to the various items. This means that the sophomores tend to weight other items appearing in the same lists in the test with those here noted, more heavily than they do most of the items considered here.

II-8. Children (Table 656). Only one significant difference appears for the stimuli in this list. 17% more of the sophomores like reading ABOUT HOW TO TRAIN CHILDREN. The difference is of good reliability.

The single difference noted here suggests greater interest in child care, on the part of the sophomores.

II-9. Sentiment (Table 657). Strong negative reactions are given by 13% more of the music students to SEE CHILDREN LEFT MOTHERLESS, and by 13% more of the sophomores to SEE A BIG BOY PICK ON A LITTLE FELLOW. The differences are of fair reliability.

These two differences just balance each other, in so far as they each represent a sentimental reaction. It is not clear from these differences that either group is more sentimental than the other.

II-10. Home (Table 658). No significant differences

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appear for the two items in this list.

II-11. Friendship (Table 659). A FALSE FRIEND receives the strongest negative reaction from 20% more of the sophomores. HELP A FRIEND receives strong positive reactions from 10% more of the sophomores, but the difference is of reliability well below the statistical criterion.

The sophomores give some indication of being more interested in friendship than the music students, although only one of the five items in this list yields a reliable difference.

II-12. Persons liked or disliked because of their physical traits (Table 660). The only stimulus in this list which yields a sizeable difference is SIDE SHOW FREAKS. This stimulus receives negative reactions from 16% more of the music students.

Perhaps SIDE SHOW FREAKS offend more against the aesthetic sensibilities of the music students.

II-13. Persons liked or disliked because of their emotional or behavior traits (Table 661). 14% more of the music students dislike SELF CONSCIOUS PEOPLE and 30% more of them dislike TALKATIVE PEOPLE. 25% more of the sophomores like TALKATIVE PEOPLE. A POOR LOSER receives strong negative reactions from 20% more of the sophomores, but likewise positive or neutral reactions

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from 13% more of the sophomores. More of the music students tend to give unemphasized negative reactions.

The music students are less tolerant of SELF CONSCIOUS PEOPLE and TALKATIVE PEOPLE than the sophomores, and dislike less strongly A POOR LOSER.

II-14. Persons liked or disliked because of their intellectual traits (Table 662). PROGRESSIVE PEOPLE are liked by 14% more of the music students and CONSERVATIVE PEOPLE by 30% more of the music students. These differences are highly reliable. In each case, more of the sophomores give neutral reactions.

These differences suggest that the music students care more about people's views than do the sophomores. The sophomores appear to be more neutral with reference to both types. The actual percentages of positive reactions to PROGRESSIVE PEOPLE and CONSERVATIVE PEOPLE are interesting to note. PROGRESSIVE PEOPLE are liked by 76% of sophomores and 90% of music students. CONSERVATIVE PEOPLE, on the other hand, are liked by 15% of sophomores and 45% of music students. Even by the music students, PROGRESSIVE PEOPLE are far more liked than CONSERVATIVE PEOPLE.

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3. ATTITUDES TOWARD VARIOUS SOCIAL, MORAL, AND RELIGIOUS PROBLEMS (Tables 663-675).

III-1. Religion (Table 663). 34% more of the sophomores like DISCUSS RELIGION. 20% more of them like strongly reading ABOUT DIFFERENT RELIGIONS. 23% more of them like strongly MORE HARMONY WITH THE DIVINE PURPOSE. 22% more of them like strongly APPLICATION OF CHRISTIAN IDEALS TO MODERN INDUSTRY. On the other hand, 14% more of the music students give the strongest positive reactions to MORE USE OF PRAYER. 11% more of the music students like strongly THE BIBLE, but this difference is of reliability below the statistical criterion. 21% more of them accept as true the statement IT IS IRREVERENT OR SACRILEGIOUS TO PUT JESUS CHRIST INTO THE SAME CLASS WITH BUDDHA, CONFUCIUS, OR SOCRATES, while 32% more of the sophomores reject this statement. RELIGIOUS PEOPLE are disliked by 11% more sophomores, and IRRELIGIOUS PEOPLE by 14% more music students.

The sophomores are obviously as much interested in religion as such as are the music students, and probably considerably more interested. The first three or four differences noted are all of good size. These differences, however, are for items which suggest general

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interest and belief in religion, rather than orthodox religious positions. The remaining differences noted suggest greater orthodoxy on the part of the music students. None of the music students dislike RELIGIOUS PEOPLE, but more of them than of the sophomores dislike IRRELIGIOUS PEOPLE.

III-2. Ethical values (Table 664). 28% more of the sophomores give strong positive reactions to EVEN-HANDED JUSTICE. On the other hand, 19% more of the music students give strong positive reactions to the statement COURAGE AND HONOR ARE HIGHER VALUES THAN JOY AND HAPPINESS.

The sophomores apparently care more about justice, and attach less weight to the rather conventional statement presented.

III-3. General interest in social progress (Table 665). 12% more of the music students give strong positive reactions to STIR ENTHUSIASM FOR A GOOD CAUSE, but 39% more of the sophomores like WORK FOR SOCIAL JUSTICE and 14% more of them like PROTEST AGAINST SOCIAL INJUSTICE.

The reactions to the last two items named suggest the reactions to EVEN-HANDED JUSTICE, in the section preceding. On the other hand, the music students are more concerned about the more general stimulus, STIR

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ENTHUSIASM FOR A GOOD CAUSE.

III-4. Specific social reforms or means to reform (Table 666). 14% more of the sophomores give strong positive reactions to BETTER HOUSING CONDITIONS. 12% more of them like MILK AND ICE FUNDS FOR BABIES. These differences are of fair reliability. 10% more of the music students give strong positive reactions to CHRISTMAS CHEER FOR THE POOR. This difference is well below the statistical criterion of reliability.

The specific proposed reforms of BETTER HOUSING CONDITIONS, and MILK AND ICE FUNDS FOR BABIES arouse more interest on the part of the sophomores. The differences are small, however. A single difference of low reliability suggests that the music students may be more interested in the ameliorative measure of CHRISTMAS CHEER FOR THE POOR.

III-5. Prohibitory legislation (Table 667). REPRESS GAMBLING is disliked by 10% more of the music students. PROHIBIT SMOKING TOBACCO is disliked by 23% more of the sophomores.

Although the negative reactions to REPRESS GAMBLING are small, 6% for the sophomores and 16% for the music students, they suggest that the music students are more tolerant toward gambling than are the sophomores. On the other hand, the sophomores are decidedly more tolerant toward smoking tobacco. The

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data give a good basis for evaluation of these differences. Both groups give many more positive reactions to REPRESS GAMBLING than to PROHIBIT SMOKING TOBACCO. Gambling is thus rated as more serious than smoking tobacco.

III-6. Freedom of speech and opinion (Table 668). 14% more strong positive reactions are given by the students to FREER DISCUSSION OF SOCIAL AND POLITICAL QUESTIONS. 23% more negative reactions are given by them to REPRESSION OF FREE SPEECH. The statements, SOCIALISTS ELECTED TO LEGISLATURES SHOULD NOT BE ALLOWED TO SERVE and A TEACHER OR PROFESSOR WHO IS NOT CONTENTED WITH THE PRESENT SOCIAL SYSTEM SHOULD BE DISCHARGED, are accepted as true by more of the music students, and are rejected by more of the sophomores.

There is no question but that the sophomores are more interested in freedom of speech and opinion. They care more strongly about free speech and discussion. More of them believe in the right of socialists elected to the legislature to serve, and the right of a teacher or professor to be discontented with the present social system.

III-7. Feminine propriety (Table 669). 14% more of the sophomores give strong positive reactions to SEE WOMEN GO INTO PROFESSIONS LIKE MEDICINE AND LAW.

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This difference is of high reliability.

The sophomores appear somewhat more concerned about feminine freedom to enter the professions of medicine and law. However, the difference appears only for the strong reactions, and is not large.

III-8. Problems of capital and labor (Table 670). More of the sophomores like reading ABOUT LABOR PROBLEMS, ABOUT SOCIALISM, and ABOUT REVOLUTIONS BY THE WORKERS. More of them like COLLECTIVE BARGAINING, and more of them like WORKING CLASS SOLIDARITY. More of them dislike SOLDIERS TO STOP STRIKES, and give negative reactions to the statement ALL STRIKES SHOULD BE PROHIBITED. The last difference mentioned is barely below the statistical criterion. On the other hand, more of the music students like UNIONIZE INDUSTRY, and accept as true the statement NEWS PUBLISHED BY THE AVERAGE PAPER IS BIASED IN FAVOR OF THE EMPLOYERS AND BIG BUSINESS MEN. More of the sophomores reject this statement as false.

In the main, the sophomores tend more to adopt a labor attitude toward the items in this list. They are more interested in the several types of reading matter which suggest labor problems, in COLLECTIVE BARGAINING and WORKING CLASS SOLIDARITY, and object more strongly to the use of SOLDIERS TO STOP STRIKES and probably to the prohibition of strikes. All of

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these differences suggest greater sympathy with labor. Just two differences in the opposite direction are noted. UNIONIZE INDUSTRY possibly suggests the musician's union to the music students. The statement regarding newspapers receives greater credence from the music students, while the sophomores are more skeptical of it. It may be that this is a type of generalization commonly made by labor advocates, which the sophomores, in spite of their greater sympathy with labor, are less willing to swallow. It may be noted that in the main, the total percentages which indicate interest in labor, or the opposite, are small for both groups. Neutral reactions are common throughout this list. Both groups appear to be apathetic toward the items listed here.

III-9. Political interest (Table 671). No significant difference appears for the one item under this heading.

III-10. International relations (Table 672). 22% more of the music students give strong negative reactions to HATRED BETWEEN NATIONS. On the other hand, 12% more of the sophomores dislike INTERNATIONAL JEALOUSY, and 25% more of them dislike strongly CONQUEST OF WEAK NATIONS BY STRONG NATIONS. 16% more of the sophomores like A FEDERATION OF THE WORLD.

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10% more of the sophomores dislike the ATTITUDE OF EUROPEAN COUNTRIES TOWARD THEIR COLONIES. This difference is of reliability below the statistical criterion. All four of the statements classified under this heading reveal differences of high reliability. More of the music students accept as true, and more of the sophomores reject as false, the three statements, NO COUNTRY EVER HAD AS GOOD LAWS, OR AS GOOD A GOVERNMENT, OR A CULTURE AS GOOD IN ANY WAY AS WE PEOPLE OF THE UNITED STATES HAVE; THE JAPANESE ARE AN INFERIOR BUT DANGEROUS PEOPLE WHO MUST BE TAUGHT THAT WE ARE MASTERS OF THE PACIFIC OCEAN; and "OUR COUNTRY, RIGHT OR WRONG!" IS A NOBLE SENTIMENT. More of the sophomores accept as true and more of the music students reject as false the statement, THE UNITED STATES HAS AT TIMES BEEN TYRANNICAL TOWARD WEAKER NATIONS.

A 22% difference for the first item suggests greater interest in good <u>international relations</u> by the music students (they give 22% more strong negative reactions to HATRED BETWEEN NATIONS). On the other hand, the more specific items which follow reveal far keener real interest in <u>international relations</u>, on the part of the sophomores, while the reactions to the four statements quoted above indicate a more chauvinistic and narrow patriotism on the part of the

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music students. The sophomores are more interested in good international relations, and have a much broader type of patriotism than the music students. Whether these differences may be attributed to the type of academic training which the sophomores have had, in contrast to the music students, does not appear.

III-11. Punishment of crime (Table 673). 15% more of the sophomores reject as false the statement, CRIME CAN BEST BE REDUCED BY PUNISHING EVERY CRIMINAL SEVERELY. 10% more of the music students accept this statement. This difference for the negative reactions is of fair reliability, that for the positive reactions of reliability below the statistical criterion.

The sophomores are more skeptical of the value of severe punishment as a remedy for crime.

III-12. Negroes (Table 674). 18% more of the sophomores like SOCIAL JUSTICE FOR NEGROES and 15% more of the music students dislike this stimulus.

The music students are less interested in SOCIAL JUSTICE FOR NEGROES. It may be noted that whereas 20% of them give negative reactions to this stimulus, only 6% of them give negative reactions to FAIR TREATMENT FOR COLORED PEOPLE. Evidently the two stimuli are not regarded as equivalent. Negative reactions to either stimulus are negligible among the sophomores.

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III-13. Schools and teaching (Table 675). 31% more of the music students give strong positive reactions to ELECT GOOD SCHOOL BOARDS, and 22% more of them give strong positive reactions to BETTER PAY FOR SCHOOL TEACHERS.

It may be noted that 8% of the sophomores and 7% of the music students dislike TEACHING, although this stimulus does not yield reliable differences. The music students are definitely preparing for TEACHING, and they already adopt a professional attitude toward their work, in that they are much more concerned than the sophomores about GOOD SCHOOL BOARDS and BETTER PAY FOR SCHOOL TEACHERS.

4. TOWARD VARIOUS OCCUPATIONS

More of the sophomores like the following occupations: DETECTIVE, EMPLOYMENT MANAGER, LAWYER, LIBRARIAN, NOVELIST, NURSE, POET, PRIVATE SECRETARY (BUSINESS), PRIVATE SECRETARY (SOCIAL), SCIENTIFIC RESEARCH WORKER, and SOCIAL WORKER (Table 676). More of the music students dislike the following: DETECTIVE, DRESSMAKER, EDITORIAL WORKER, EMPLOYMENT MANAGER, LIBRARIAN, MILLINER, NEWSPAPER REPORTER, NOVELIST, POET, PRIVATE SECRETARY (BUSINESS), RETAIL SALES CLERK, and SCIENTIFIC RESEARCH WORKER.

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More of the music students like the following occupations: MUSICIAN and TEACHER. No reliable difference indicates that more of the sophomores than of the music students dislike any of these occupations.

A comparison of the lists given above with the classification of the various occupations by twenty-four women teachers indicates that the sophomores are more interested in occupations of every kind than are the music students. The music students appear to be so vocationally slanted that even under the influence of the careful directions to mark "LIKE" any occupation which the subject would care to follow, assuming that he had the necessary capacity, etc., they failed to indicate greater interest than the sophomores in any occupations except those for which they are prepared, musician and teacher.

5. GENERAL TENDENCIES

Four of the ten tentative measures of general tendency with regard to attitudes reveal significant differences between the sophomores and the music students (Table 633).

The sophomores have a greater range of occupational interests, and the music students a greater range of

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occupational distastes. The sophomores appear to show greater interest in social contacts, and greater interest in international relations. All of these differences are highly reliable.

Three other differences which fail to meet the statistical criterion of reliability, may be mentioned. The sophomores surpass the music students in range of interests in reading, in range of tolerance for people of various types, and in orthodoxy in religion. The difference for range of tolerance approaches closely to the statistical criterion of reliability.

6. SUMMARY

The sophomores are more interested than the music students in: (a) reading about sports, certain types of romantic reading matter and entertainment (love stories, detective stories, Mary Pickford, musical comedies), humor (to some degree), science, oral self-expression, and residence in the city; (b) managing people, activities in which social contacts are important, items suggesting susceptibility to social opinion, child care (somewhat), and friendship (to some degree); (c) items suggesting general interest in socialization, less conventional ethical values, general social progress (somewhat), tolerance of tobacco,

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freedom of speech and opinion, reading about labor problems, typical labor viewpoints, good international relations, a relatively broad patriotism, and negro welfare; (d) almost all of the occupations listed except musician and teacher.

The music students are more interested in: (a) success in work and financial success, high grade reading, certain types of popular reading (Red Book Magazine, American Magazine, Harold Bell Wright), items suggesting general curiosity, manual work and mechanical matters, and music; (b) family relationships, both general and personal, tolerance of self-conscious people, talkative people, poor losers, and progressive and conservative people; (c) orthodox religious views, tolerance of gambling, severe punishment of crime, and teaching; (d) occupations for which they are preparing, (musician and teacher).

The sophomores have a greater range of occupational interests, and the music students have a greater range of occupational distastes. The sophomores appear to show greater interest in social contacts, and in international relations.

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G. SOCIALIZATION

1. GENERAL

Mean scores for socialization are -12.28 for the sophomores and -18.20 for the music students (Table 633). The six-point difference in favor of greater socialization for the sophomores is highly reliable.

2. DETAILED ANALYSIS

The sophomores surpass the music students in most but not quite all of the various aspects of socialization, as analyzed out by Hart (Table 677). They surpass the music students in intellectuality and craving for truth, lack of sentiment, intellectual interest in religion, indifference to religious creeds, general altruism, objection to repression of freedom of speech, interest in economic justice, international and interracial mindedness, and indifference to certain miscellaneous interests. The music students surpass the sophomores only in indifference toward light reading and in insensitiveness to social opinion. A relatively unreliable difference (951 chances in 1000) indicates that the music students likewise surpass the sophomores in unconventionality.

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H. SUMMARY

1. General. The music students are, on the average, a year and a half older than the sophomores, but have had approximately the same amount of education. They are vocationally slanted to a degree far beyond the sophomores.

2. Social and economic background. The music students come from homes all of better cultural and probably better economic backgrounds. Their homes were more limited, however, with regard to social life, and were probably less cheerful. More of the sophomores report neither parent dominant. More of the music students were only children. These facts point to the probability of greater introversion on the part of the music students. Their home environment was probably less favorable to good social development and more favorable to the development of intellectual interests.

3. Intelligence. The evidence on relative intelligence is unreliable. Probably the music students approximate closely the level of the sophomores.

4. Commonality of response. A considerable difference in mean score for commonality of association points to greater extroversion on the part of the sophomores.

5. Leisure time activities. The sophomores surpass the music students in average total number of activities

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reported, in attendance upon light entertainment, in periods of physical exercise, in non-professional books read, although they participated in fewer uplift activities and slightly fewer social activities. The music students attended many more musical events.

6. Attitudes and interests. The sophomores show greater interest in reading about sports, science, oral self-expression, managing people, social activities, social opinion, religion, freedom of speech and opinion, labor literature and attitudes, good international relations, a wider patriotism, negro welfare, and a wider range of occupations. The music students are more interested in success, high grade reading, manual work and mechanical matters, music, family relationships, religious orthodoxy, severe punishment for crime, and the occupations for which they are preparing (musician and teacher). The sophomores have more occupational interests, and the music students more occupational distastes. The sophomores show greater interest in social contacts and in international relations.

7. Socialization. The sophomores have a higher total score for socialization, on the average, and surpass the music students in most of the aspects of socialization. The music students stand higher only in indifference toward light reading and in insensitiveness to social opinion.

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CHAPTER XI. COMPARISON OF STUDENT-TEACHERS WITH MUSIC STUDENTS

A. GENERAL

The student-teachers and the music students have been described in Chapter II. Both groups are engaged in student-teaching, although the student-teachers are employed half of their school day in this manner, while the music students have much less time for practice teaching. The vocational slanting of the two groups is in each case toward teaching, but in the case of the music students, the type of teaching is far more specialized than in the case of the student-teachers.

The student-teachers average two years older than the music students. The mean ages are 23.34 for the student-teachers, and 21.36 for the music students (Table 679). The difference is highly reliable. Other factors than age, however, are probably chiefly responsible for the differences which may be found here.

B. SOCIAL AND ECONOMIC BACKGROUND

1. ECONOMIC AND EDUCATIONAL

The parents of the music students were better educated than the parents of the student-teachers (Table 678). This is seen clearly in the fact that

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26% more of the fathers of the student-teachers finished only the grades. 13% more of the mothers of the student-teachers finished less than the grades or only the grades.

The student-teachers come from considerably larger families than the music students. The mean number of children per family for the student-teachers is 4.32, while that for the music students is 2.94 (Table 079). The difference is highly reliable.

Although the subjects' ratings of the financial circumstances of their families do not yield reliable differences, the difference in size of family suggests strongly greater economic advantages as well as better cultural background for the music students.

2. SOCIAL BACKGROUND

None of the student-teachers and 12% of the music students report that their family acquaintanceship was limited almost exclusively to people of the same religious belief. Although this difference is reliable, the actual figures are fairly small.

26% more of the student-teachers state that their family more often did the entertaining. 20% more of the music students state that their family was entertained and entertained about equally.

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3. FAMILY RELATIONSHIPS

More of the student-teachers were in between the youngest and oldest children. This difference is not highly reliable, only 894 chances in 1000.

None of the student-teachers, but 12% of the music students report that they were treated worse in childhood than their brothers and sisters. This difference is reliable.

More of the music students report that they took after both parents. More of the music students report that they liked the father better in childhood, that the father has most influenced them, and that the father was the parent dominant in the family. The student-teachers tend to a greater degree to place the parents on an equality with regard to these questions.

4. [illegible] ADAPTATION

25% more of the music students report that they had a desire to run away from home. No statistically significant difference appears in the answers to the question regarding the desire for better home and environmental conditions, but the slight differences which are found are suggestive. 7% more of the music students would desire a change, 10% more of them would desire more refined playmates, and 8% would desire more

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cheerful conditions. On the other hand, 7% more of the student-teachers would desire a wealthier environment.

5. SUMMARY

The music students come from homes where the parents were better educated, and were probably in better financial circumstances. The answers to the question regarding entertainment indicates a decidedly better social adaptation on the part of the families of the music students, although there is a tendency for their families to have a more limited range of acquaintanceship. The music students more often take after both parents. Paternal influence seems to be greater for the music students than for the sophomores. The answers to several questions give evidence of this. In spite of the apparently favorable background, more of the music students report a desire to run away from home, and there appears to be a slight tendency for greater dissatisfaction on their part with the home. A number of the music students, but none of the student-teachers, report that they were treated worse than their brothers and sisters. More of the student-teachers were in between the oldest and youngest children. The evidence is conflicting regarding the factors which might make for introversion or extroversion.

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C. INTELLIGENCE

The mean score on Army Alpha for the student-teachers is 149.6 (Table 679). That for the music students is 138.8. The difference is highly reliable, and indicates a higher level of general intelligence for the student-teachers. This would seem likely, in view of the longer period of education which the student-teachers have had, and the consequently greater selection which has occurred in their case.

D. COMMONALITY OF ASSOCIATION

The mean score for the student-teachers on commonality of association is far above that for the music students (Table 679). The means are 35.24 and 26.55, respectively.

This difference appears to indicate greater extroversion on the part of the student-teachers.

E. LEISURE TIME ACTIVITIES

1. TROW TOTAL ACTIVITIES SCORE

The mean number of total activities for the student-teachers is 93.0 (Table 679). That for the music students is 119.1. The difference is highly reliable. It must be interpreted in the light of the

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particular activities engaged in, as reported below.

2. TROW PARTIAL SCORES

a. Trow Partial 1. Uplift Activities

The student-teachers participated in 24 uplift activities, on the average, during the twenty weeks reported upon, and the music students in 40 (Table 679). More of the student-teachers failed to attend any operas, symphony concerts, or recitals, and to pay any visits to art galleries (Table 680). More of the student-teachers attended church regularly, however. The differences with regard to musical events would naturally be expected, and doubtless account for the difference in mean number of uplift activities.

b. Trow Partial 2. Social Activities

The music students decidedly surpass the student-teachers in participation in social activities (Table 679). The means are 25 for the student-teachers and 47 for the music students. The activities included here are dancing, indoor games, and social meetings, such as those of clubs (Table 680).

c. Trow Partial 3. Light Entertainment

The difference for the activities listed here is

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unreliable (Table 679). The means are 23 for the student-teachers and 26 for the music students. More of the student-teachers failed to attend any vaudeville shows, and more of the music students attended no athletic contests (Table 680).

d. Trow Partial 4. Physical Exercise

The student-teachers and the music students rate about the same in amount of physical exercise (Table 679). The mean number of periods of exercise, including walks in the country, for the student-teachers is 12, while that for the music students is 10. More of the music students failed to take any periods of exercise or any walks in the country (Table 680).

e. Trow Partial 5. Non-Professional Books Read

The student-teachers report an average of 9 non-professional books read in twenty weeks, and the music students an average of 7 (Table 679). The difference is fairly reliable. More of the music students report no non-professional books read (Table 680).

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F. ATTITUDES AND INTERESTS

1. ATTITUDES TOWARD VARIOUS PERSONAL ACTIVITIES AND SATISFACTIONS

(Tables 681-694)

I-1. Success in work (Table 681). The single item listed here is not differential.

I-2. Financial success (Table 682). 18% more of the student-teachers like THRIFTY PEOPLE. 23% more of the music students dislike reading ABOUT HOW TO BUY AND SELL STOCKS AND BONDS. 13% more of the music students dislike reading ABOUT BANKING. The last of these differences is of reliability just below the statistical criterion. On the other hand, 16% more of the music students like WIN OUT IN THE FINANCIAL WORLD, and 19% more of them like PEOPLE WHO HAVE MADE FORTUNES IN BUSINESS. 19% more of the student-teachers dislike CONCENTRATION OF WEALTH. These differences are of fair to good reliability.

Some of these differences suggest greater interest in financial success on the part of the music students, and some of them greater interest on the part of the student-teachers. More of the music students give positive reactions to the stimuli which directly suggest financial success, e.g., WIN OUT IN THE FINANCIAL WORLD, and PEOPLE WHO HAVE MADE FORTUNES IN BUSINESS, but they

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are more disinterested in reading ABOUT BANKING and HOW TO BUY AND SELL STOCKS AND BONDS, and care less for THRIFTY PEOPLE. Although more interested in financial success, the music students are less interested in the means to this goal.

I-3. Uncomfortable or unpleasant personal experiences (Table 683). 30% more of the music students dislike strongly HEAR A CARELESS PLAYER POUND A PIANO. 10% more of the student-teachers dislike strongly UNEXPECTEDLY TOUCH A DEAD BODY, but this difference is of low reliability.

The one significant difference to be noted here is that for HEAR A CARELESS PLAYER POUND A PIANO, where strong negative reactions would naturally be expected from more of the music students.

I-4. Sport and outdoor recreation (Table 684). More of the music students dislike SPORTING PAGES, SPORTING NEWS, BASEBALL NEWS, and FISHING. More of the student-teachers like TAKING LONG WALKS. On the other hand, more of the music students like EXPLORE STRANGE COUNTRY, and DRIVING AN AUTOMOBILE.

In so far as interest in reading about sport means interest in sport itself, the student-teachers rank above the music students. It is difficult to evaluate the differences for the stimuli EXPLORE STRANGE

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COUNTRY and DRIVING AN AUTOMOBILE without knowing the percentages in each group who have opportunity to drive automobiles. No evidence is at hand upon this point.

I-5. High grade reading and other leisure time activities (Table 685). Four differences of good reliability appear for this list of items, and four other differences of reliability between 800 and 899 chances in 1000. All of these stimuli receive more positive reactions from the student-teachers. The items are as follows, in decreasing order of reliability of difference: ATLANTIC MONTHLY, PHILOSOPHY, LYRIC POETRY, EDITORIALS, LITERARY DIGEST, TRAVEL MOVIES, NEW REPUBLIC, REVIEW OF REVIEWS.

There is no question but that the student-teachers rate well above the music students in taste for high grade reading. Even TRAVEL MOVIES, which was included with the other items in this list as a high grade type of recreation, shows a small difference in the same direction. Whether the differences noted here are a matter of selection of the student-teachers and the music students, or a matter of the greater amount of general education which the student-teachers have had, is a question on which data are not available.

I-6. Popular reading and other leisure time activities (Table 686). 15% more of the music students

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dislike DETECTIVE STORIES, and 12% more of them dislike SHORT STORY MAGAZINES. On the other hand, differences of fair to high reliability indicate that more of the music students like AMERICAN MAGAZINE, HAROLD BELL WRIGHT, and VAUDEVILLE, while differences below the statistical criterion indicate that more of the music students like THE RED BOOK MAGAZINE, MUSICAL COMEDY, and MARY PICKFORD.

Save for DETECTIVE STORIES and SHORT STORY MAGAZINES, practically all of the items in this list of popular reading and other leisure time activities are liked by more of the music students. This statement confirms the conclusion for the preceding section, that the student-teachers rank above the music students on taste in matters of reading and other leisure time activities. It will be recalled that DETECTIVE STORIES has been a favorite recreation with many persons of high intellectual attainment, while SHORT STORY MAGAZINES is a relatively neutral item.

I-7. Low grade reading and other leisure time activities (Table 687). 13% more of the student-teachers dislike strongly SMART SET and likewise 13% more of the student-teachers give the strongest negative reactions to VULGAR SHOWS.

Greater distaste for SMART SET and VULGAR SHOWS,

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on the part of the student-teachers, confirms the statement made above regarding differences in taste.

I-8. Humor (Table 688). 11% more of the music students like HUMOROUS BOOKS, and 11% more of them also like "LIFE." The first of these differences barely meets the statistical criterion, while the second is well below it.

No clear differences in reactions to humor appear between the music students and the student-teachers. The differences noted suggest that the music students may rate above the student-teachers in interest in humor, but the differences cannot be relied upon.

I-9. General curiosity (Table 689). 24% more of the music students give strong positive reactions to MEET PEOPLE WHO TALK INTERESTINGLY, and 10% more of them give strong positive reactions to BELONG TO A CLUB FOR STUDY. On the other hand, 16% more of the student-teachers give strong positive reactions to FIND OUT ABOUT THE WORLD. 13% more of the student-teachers likewise give strong positive reactions to HEAR AN INTERESTING TALK, but this difference fails to meet the statistical criterion.

The differences found disagree with each other, and it is not possible to say that either the student-teachers or the music students display more general

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curiosity.

I-10. Scientific interest (Table 690). The student-teachers give 23% more positive reactions to DO RESEARCH WORK, 27% more strong positive reactions to ABOUT SCIENCE, and 23% more positive reactions to ABOUT EVOLUTION.

The student-teachers are evidently more interested in science, both with reference to research and with reference to reading about science, than are the music students.

I-11. Manual and mechanical interests (Table 691). The only differences to be noted for this list of items are for the stimulus SCIENTIFIC AMERICAN. This item receives more positive reactions from the student-teachers and more negative reactions from the music students.

The differences in reactions to SCIENTIFIC AMERICAN agree with the differences noted in the preceding section. The student-teachers show greater scientific interest and curiosity than do the music students.

I-12. Music (Table 692). 21% more of the music students like strongly HEAR SYMPHONIES and 46% more of them like PLAY IN AN ORCHESTRA. 19% more of the student-teachers dislike PLAY IN AN ORCHESTRA.

Greater interest in music, both from the standpoint

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of the performer and the listener, would naturally be expected from the music students. The differences found agree with this assumption.

I-13. Oral self-expression (Table 693). 19% more of the music students dislike ARGUMENTS and 23% more of them dislike TELLING A STORY. 39% more of the student-teachers like TELLING A STORY. INTERVIEWS are disliked by 10% more of the music students, but the difference is not of high enough reliability to meet the statistical criterion.

The student-teachers are evidently more interested in oral self-expression than are the music students. This applies in the case of ARGUMENTS, TELLING A STORY, and possibly INTERVIEWS.

I-14. Rural or urban residence (Table 694). No difference of reliability great enough to meet the statistical criterion appears under this heading. 13% more of the music students dislike LIVING ON A FARM, but the reliability of the difference is only 887 chances in 1000.

2. ATTITUDES TOWARD VARIOUS PEOPLE AND RELATIONSHIPS WITH PEOPLE

(Tables 695-708)

II-1. Managing people, leadership (Table 695). More of the student-teachers like PEOPLE WHO TEND TO

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ASSUME LEADERSHIP and more of the music students dislike such people. These are the only differences of statistical significance, but three differences under 10% also suggest that the student-teachers are more interested in managing people.

The evidence is inconclusive, although it suggests that the student-teachers are more interested in leadership and managing people.

II-2. Activities in which social contacts are important (Table 696). More of the student-teachers like CHECKERS, and more of them like LISTENING TO A STORY. More of the music students dislike CHECKERS, BRIDGE, and CONVENTIONS. Differences of 10% which do not come up to the statistical criterion suggest that more of the student-teachers like DANCING, and that more of the music students like AMUSEMENT PARKS and PICNICS. The reliability of the difference for DANCING is 896 chances in 1000, while the reliabilities of the other two differences are much lower.

The reliable differences for CHECKERS, BRIDGE, CONVENTIONS, and LISTENING TO A STORY, and the slightly less reliable differences for DANCING, all point to greater interest in activities involving social contacts on the part of the student-teachers. The music students are relatively less social individuals, according to this

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evidence.

II-3. Activities in which social contacts are at a minimum (Table 697). More of the music students like BEING LEFT TO YOURSELF and SOLITAIRE.

The music students care more for freedom from social contacts, according to the reactions to the two items listed here. This finding is in agreement with that for the preceding section, in which it was indicated that the student-teachers care more for social contacts.

II-4. Conformity to social usage (Table 698). More of the student-teachers dislike strongly BE IN INFORMAL CLOTHES AT A FORMAL AFFAIR. This is the only difference of statistical reliability, for the items in this list.

The evidence is inconclusive, but suggests that the student-teachers may be more concerned about conformity to social usage.

II-5. Susceptibility to social opinion (Table 699). More of the student-teachers dislike BE JEERED AT, and NOT GET CREDIT FOR WHAT YOU DO. These differences are of good reliability. A difference of 12%, with a reliability of 848 chances in 1000, indicates that more of the student-teachers dislike strongly HAVE TO WEAR SHABBY CLOTHES.

The student-teachers are more susceptible to social

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opinion.

II-6. Family relationships (general) (Table 700). More of the student-teachers like reading ABOUT EUGENICS, and more of them like strongly MAKE DIVORCE HARDER. On the other hand, 10% more of the music students give the strongest positive reactions to MORE HONORING OF PARENTS BY THEIR CHILDREN. This difference is of reliability just below the statistical criterion.

The student-teachers are more interested than the music students in family relationships in the abstract as represented in the discussion of eugenics and making divorce harder. On the other hand, a difference of not so great reliability suggests that the music students may be more interested in good relationships between parents and children.

II-7. Family relationships (personal) (Table 701). More of the music students give the strongest positive reaction to LOYALTY TO ONE'S PARENTS, strong positive reactions to GO WALKING WITH YOUR FATHER, and strong negative reactions to FAIL TO HEAR FROM YOUR PARENTS, BROTHERS, OR SISTERS. In total strong positive reactions to LOYALTY TO ONE'S PARENTS, the student-teachers surpass the music students, however. More of the student-teachers likewise like ATTEND YOUR FAMILY REUNION, and dislike

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HAVE YOUR CHILDREN PUT INTO AN INSTITUTION.

In agreement with the results for the preceding section, it is found that the music students are more concerned with personal relationships with their parents and families, while the student-teachers are more interested in relatively less personal relationships. For the items in this list, this means that the music students give, on the average, stronger reactions to the stimuli LOYALTY TO ONE'S PARENTS, GO WALKING WITH YOUR FATHER, and FAIL TO HEAR FROM YOUR PARENTS, BROTHERS, OR SISTERS. The student-teachers give reactions in the same direction to these stimuli, but not such strong reactions. They give reactions indicating more interest in family reunions and more concern over HAVE YOUR CHILDREN PUT INTO AN INSTITUTION.

II-8. Children (Table 702). More of the student-teachers like reading about HOW TO TRAIN CHILDREN, and more of the music students dislike reading ABOUT THE PROPER FEEDING OF CHILDREN. On the other hand, the stimulus PLAY WITH CHILDREN, receives 14% more strong positive reactions from the music students. This difference barely fails to meet the statistical criterion.

The student-teachers are again more interested in child care in the abstract, as represented by reading about child care; but the music students are probably

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more strongly interested in actual play with children.

II-9. Sentiment (Table 703). More of the music students dislike strongly SEE CHILDREN LEFT MOTHERLESS, and more of them like VERY OLD PEOPLE. A slightly smaller difference, which does not quite meet the statistical criterion, appears for the stimulus SEE A BIG BOY PICK ON A LITTLE FELLOW. 12% more of the music students dislike strongly this item.

The differences here also suggest more sentiment on the part of the music students. It may be noted that the reactions with reference to children and family relationships likewise may be interpreted as indicating more sentiment on the part of the music students. The student-teachers, on the other hand, are more inclined to react strongly to the relatively impersonal aspects of family relationships, and child care.

II-10. Home (Table 704). No significant difference appears for the two items listed here.

II-11. Friendship (Table 705). More of the music students give the strongest positive reaction to BE FRIENDS WITH PEOPLE, and more of them give strong negative reactions to MOVE AWAY FROM FRIENDS. On the other hand, more of the student-teachers give strong positive reactions to HELP A FRIEND, and more of them dislike strongly BE LONELY. The difference in strong negative reactions to BE LONELY just barely fails to meet the

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statistical criterion (898 chances in 1000).

On the whole, the differences noted suggest greater interest in friendship, as such, on the part of the music students, but greater altruistic interest on the part of the student-teachers. The evidence is not so clear in this case, however, as for the preceding sections.

II-12. Persons liked or disliked because of their physical traits (Table 706). More of the music students like FAT MEN, but more of them dislike FAT WOMEN, CROSS-EYED PEOPLE, and SIDE SHOW FREAKS. SIDE SHOW FREAKS are liked by 12% of the student-teachers and 2% of the music students.

With the exception of FAT MEN, the stimuli suggesting physical unattractiveness are disliked by more of the music students. The student-teachers appear to be more tolerant of physical defects.

II-13. Persons liked or disliked because of their emotional or behavior traits (Table 707). More of the student-teachers like PEOPLE WHO ARE SLOW IN MAKING DECISIONS and TALKATIVE PEOPLE. These stimuli are disliked by more of the music students. On the other hand, EMOTIONAL PEOPLE are disliked by 12% more of the student-teachers, but the reliability of the difference is only 864 chances in 1000.

If it be assumed that a liking for types of people

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suggested here tends to indicate similarity in make-up to these types, it may be judged that the student-teachers are slower in making decisions, more talkative, and perhaps less emotional. It may be recalled that the student-teachers are somewhat more interested than the music students in ARGUMENTS, and TELLING A STORY, this agreeing with the suggestion regarding talkativeness.

II-14. Persons liked or disliked because of their intellectual traits (Table 708). More of the music students dislike CONSERVATIVE PEOPLE, but the actual percentages here are small, 3% for the student-teachers and 19% for the music students. At the same time, a slightly larger percentage of the music students like CONSERVATIVE PEOPLE. The student-teachers tend more to give neutral reactions to this stimulus. None of the other stimuli in this list yields significant differences.

Only one item under this heading reveals a statistically reliable difference. The student-teachers are more neutral toward CONSERVATIVE PEOPLE, while more of the music students both like and dislike CONSERVATIVE PEOPLE.

3. ATTITUDES TOWARD VARIOUS SOCIAL, MORAL, AND RELIGIOUS PROBLEMS (Tables 709-721)

III-1. Religion (Table 709). More of the student-

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teachers like DISCUSS RELIGION, like strongly MORE HARMONY WITH THE DIVINE PURPOSE, like COMMUNE WITH THE GREAT SPIRIT, dislike very strongly FEEL THAT GOD HAS FORGOTTEN YOU, and like RELIGIOUS PEOPLE. These differences, all of fair or good reliability, which suggest greater general interest in religion on the part of the student-teachers, may be supplemented by two differences of less reliability. More of the student-teachers like THE BIBLE and more of them like strongly APPLICATION OF CHRISTIAN IDEALS TO MODERN INDUSTRY. On the other hand, more of the music students dislike DISCUSS RELIGION, like strongly MORE USE OF PRAYER, and accept as true the statement IT IS IRREVERENT OR SACRILEGIOUS TO PUT JESUS CHRIST INTO THE SAME CLASS WITH BUDDHA, CONFUCIUS, OR SOCRATES. This statement is rejected by more of the student-teachers, as is also the statement BY MEANS OF PRAYER ONE MAY, IN TIME OF NEED, GET HELP FROM SPIRITUAL POWERS OUTSIDE HIMSELF. The actual figures for the negative reactions to this last mentioned statement are small, however, 19% for the student-teachers and 8% for the music students.

The student-teachers are more interested in religion, as such, than are the music students. The music students, however, are more interested in MORE USE OF PRAYER, and are more orthodox in their views on the two statements

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quoted above.

III-2. Ethical values (Table 710). More of the student-teachers like EVEN-HANDED JUSTICE, and more of the music students give strong positive reactions to the statement COURAGE AND HONOR ARE HIGHER VALUES THAN JOY AND HAPPINESS.

The student-teachers are more interested in abstract justice, while the music students place a higher value upon the statement quoted regarding courage and honor.

III-3. General interest in social progress (Table 711). More of the student-teachers like WORK FOR SOCIAL JUSTICE and PROTEST AGAINST SOCIAL INJUSTICE, but more of the music students like strongly STIR ENTHUSIASM FOR A GOOD CAUSE.

The two phrases which suggest interest in justice receive more positive reactions from the student-teachers. This difference is in accordance with that found for the stimulus EVEN-HANDED JUSTICE in the preceding section. On the other hand, the more general phrase, STIR ENTHUSIASM FOR A GOOD CAUSE, receives stronger positive reactions from the music students.

III-4. Specific social reforms or means to reform (Table 712). More of the student-teachers like strongly BETTER HOUSING CONDITIONS, ABOLITION OF CHILD LABOR EVILS,

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and MILK AND ICE FUNDS FOR BABIES. More of the music students like strongly CHRISTMAS CHEER FOR THE POOR.

CHRISTMAS CHEER FOR THE POOR is probably the weakest and least significant of the specific reforms suggested here. It definitely suggests amelioration without cure. MILK AND ICE FUNDS FOR BABIES likewise suggests amelioration, but of a more important sort. Positive reactions are very general for both groups to all of these items, it should be noted, all the major differences coming in the strong positive reactions. The student-teachers are more concerned about the more fundamental reforms suggested here.

III-5. Prohibitory legislation (Table 713). More of the music students dislike REPRESS GAMBLING, and more of the student-teachers dislike PROHIBIT SMOKING TOBACCO. The percentages of negative reactions to REPRESS GAMBLING are 6% for the student-teachers and 16% for the music students. The percentages of negative reactions to PROHIBIT SMOKING TOBACCO are 40% for the student-teachers and 31% for the music students.

More of the student-teachers are tolerant toward smoking tobacco and slightly more of the music students are tolerant toward gambling. The reader may evaluate for himself the relative worth of these attitudes.

III-6. Freedom of speech and opinion (Table 714). More of the student-teachers like FREER DISCUSSION OF

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SOCIAL AND POLITICAL QUESTIONS, and more of them dislike REPRESSION OF FREE SPEECH. Fewer of them accept as true the statement, SOCIALISTS ELECTED TO LEGISLATURES SHOULD NOT BE ALLOWED TO SERVE.

The student-teachers are more definitely interested in freedom of speech and opinion than are the music students.

III-7. Feminine propriety (Table 715). More of the student-teachers like strongly SEE WOMEN GO INTO PROFESSIONS LIKE MEDICINE AND LAW. On the other hand, more of the student-teachers dislike SMOKING BY WOMEN, while more of the music students are neutral to SMOKING BY WOMEN. Positive reactions to SMOKING BY WOMEN are negligible for both groups.

The student-teachers are more interested in the entrance of women into the professions, but are more negative to SMOKING BY WOMEN. More than half of the student-teachers dislike SMOKING BY WOMEN, while more than half of the music students are neutral to this stimulus.

III-8. Problems of capital and labor (Table 716). More of the student-teachers like reading ABOUT LABOR PROBLEMS, reading ABOUT REVOLUTIONS BY THE WORKERS, COLLECTIVE BARGAINING and WORKING CLASS SOLIDARITY, and more of them dislike SOVIET CONTROL IN INDUSTRY,

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and SOLDIERS TO STOP STRIKES. More of the music students dislike reading ABOUT LABOR PROBLEMS, reading ABOUT SOCIALISM, and WORKING CLASS SOLIDARITY. All of the differences just mentioned are of good or fair reliability. Differences of less reliability suggest that more of the student-teachers like reading ABOUT SOCIALISM and more of the music students dislike reading LABOR AND SOCIALIST DAILIES, and reading ABOUT REVOLUTIONS BY THE WORKERS.

The student-teachers are evidently more interested in reading the labor literature, and in labor viewpoints. This is not carried to the point of interest in radical positions, however, for more of the student-teachers dislike SOVIET CONTROL IN INDUSTRY. The music students are in general more disinterested in the problems suggested in this section, and more negative toward labor attitudes. It is interesting to note that the three statements quoted in this section, regarding which many people tend to disagree, do not reveal sign between these groups. On the whole, the evidence is clear that the music students are both less interested and more conservative in their attitudes with reference to problems of capital and labor than are the student-teachers.

III-9. Political interest (Table 717). 44% more of the student-teachers like MORE INTEREST IN LOCAL

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POLITICS. The actual figures are 88% for the student-teachers and 64% for the music students.

This highly reliable difference indicates greater political interest on the part of the student-teachers.

III-10. International relations (Table 718). More of the student-teachers dislike INTERNATIONAL JEALOUSY, and like WORLD DISARMAMENT and A FEDERATION OF THE WORLD. Differences of less reliability suggest that more of them likewise dislike CONQUEST OF WEAK NATIONS BY STRONG NATIONS, and the ATTITUDE OF EUROPEAN COUNTRIES TOWARD THEIR COLONIES. More of the music students are neutral toward the ATTITUDE OF EUROPEAN COUNTRIES TOWARD THEIR COLONIES. More of the student-teachers accept as true the statement THE UNITED STATES HAS AT TIMES BEEN TYRANNICAL TOWARD WEAKER NATIONS, and reject as false the statements NO COUNTRY EVER HAD AS GOOD LAWS, OR AS GOOD A GOVERNMENT, OR A CULTURE AS GOOD IN ANY WAY AS WE PEOPLE OF THE UNITED STATES HAVE; THE JAPANESE ARE AN INFERIOR BUT DANGEROUS PEOPLE WHO NEED TO BE TAUGHT THAT WE ARE MASTERS OF THE PACIFIC OCEAN; and "OUR COUNTRY RIGHT OR WRONG!" IS A NOBLE SENTIMENT.

The evidence throughout indicates that the student-teachers are much more concerned about good international relations, and have a less narrow conception of patriotism than the music students.

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III-11. Punishment of crime (Table 719). More of the music students accept as true the statement CRIME CAN BEST BE REDUCED BY PUNISHING EVERY CRIMINAL SEVERELY, and more of the student-teachers reject this statement.

The music students are more inclined to adopt the attitude that the cure for crime is in severe punishment, while the student-teachers are more inclined to doubt this attitude.

III-12. Negroes (Table 720). More of the student-teachers like FAIR TREATMENT FOR COLORED PEOPLE and SOCIAL JUSTICE FOR NEGROES. 9% of the music students dislike FAIR TREATMENT FOR COLORED PEOPLE, in contrast to 0% of the student-teachers, and 20% of the music students dislike SOCIAL JUSTICE FOR NEGROES, in contrast to 0% of the student-teachers.

The student-teachers are more inclined to react favorably toward negroes. It may be that more of the music students come from the South. The reactions of the music students to SOCIAL JUSTICE FOR NEGROES are interesting. Only 39% of them like this item, while 41% of them are neutral and 20% dislike the item.

III-13. Schools and teaching (Table 721). 22% more of the music students give strong positive reactions to ELECT GOOD SCHOOL BOARDS. On the other hand, more

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of the student-teachers like strongly BETTER PAY FOR SCHOOL TEACHERS and more of them like TEACHING.

No significant difference appears in the total positive reactions to ELECT GOOD SCHOOL BOARDS and BETTER PAY FOR SCHOOL TEACHERS. The music students are more inclined to stress ELECT GOOD SCHOOL BOARDS, while the student-teachers are more inclined to stress BETTER PAY FOR SCHOOL TEACHERS. 88% of the student-teachers like TEACHING, while only 76% of the music students like TEACHING. Since both of these groups are definitely preparing for TEACHING, it may be questioned whether in either case there should be so large a percentage of students who do not like TEACHING.

4. TOWARD VARIOUS OCCUPATIONS

More of the student-teachers like the following occupations: DETECTIVE, DRAFTSMAN, LAWYER, LIBRARIAN, NOVELIST, POET, PRIVATE SECRETARY (BUSINESS), SCIENTIFIC RESEARCH WORKER, and TEACHER (Table 722). More of the music students dislike the following: DETECTIVE, DRAFTSMAN, DRESSMAKER, EDITORIAL WORKER, FARMER, LIBRARIAN, MILLINER, NOVELIST, POET, PRIVATE SECRETARY (BUSINESS), SCIENTIFIC RESEARCH WORKER, and SOCIAL WORKER.

More of the music students like the following occupations: ATHLETIC DIRECTOR, MUSICIAN, and RETAIL

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SALES CLERK. No reliable difference indicates that any of the occupations listed is disliked by more of the student-teachers than of the music students.

The occupations which are liked by more student-teachers or disliked by more music students are so much more numerous than those which are liked by more music students that comparison of the lists with the classification of the occupations by twenty-four women teachers is not profitable. The outstanding fact is the greater spread of occupational interests for the student-teachers, and the very narrow interests shown by the music students.

5. GENERAL TENDENCIES

Five of the tentative measures of general tendency with regard to attitudes show significant differences between these groups (Table 679).

The student-teachers rate above the music students in range of occupational interests, range of interests in reading, range of tolerance for people of various types, and interest in international relations. The music students show a greater range of occupational distastes than do the student-teachers.

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6. SUMMARY

The student-teachers are more interested than the music students in: (a) high grade reading, science, and oral self-expression; (b) managing people and leadership, activities involving social contacts, items suggesting conformity to social usage and susceptibility to social opinion, family relationships (as represented in abstract terms), items suggesting tolerance of physical unattractiveness, people who are slow in making decisions, and talkative people; (c) items suggesting intellectual interest in religion, social progress, freedom of speech and opinion, labor literature and labor viewpoints, local politics, good international relations and a relatively broad conception of patriotism, negro welfare, and teaching; (d) a wide range of occupations instead of a narrow range.

The music students are more interested than the student-teachers in: (a) financial success, popular reading and other leisure time activities, and music; (b) personal family relationships, sentiment, friendship; (c) orthodox views in religion, conventional views regarding ethical values, indifference to smoking by women, severe punishment for crime; (d) a narrow range

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of occupations in contrast to a wide range.

The student-teachers have a wider range of occupational interests, and of interests in reading, are tolerant of people of more varied types, and have greater interest in international relations. The music students have a greater range of occupational distastes.

G. SOCIALIZATION

1. GENERAL

The difference in mean scores between the student-teachers and the music students on socialization is very marked and reliable (Table 679). The means are -7.97 for the student-teachers and -18.20 for the music students, a difference of over ten points in favor of the student-teachers.

2. DETAILED ANALYSIS

The student-teachers surpass the music students in the majority of the aspects of socialization as analyzed out by Hart (Table 723). The student-teachers resemble more nearly Hart's leaders of social progress in intellectual interest in religion, indifference to religious creeds, general altruism, objection to repression of freedom of speech, interest in economic

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justice, intellectuality and craving for truth, international and interracial mindedness, and indifference to certain miscellaneous interests.

The music students surpass the student-teachers only in insensitiveness to social opinion.

H. SUMMARY

1. General. The student-teachers average two years older than the music students, and have an educational status two or more years in advance of the music students. The music students are more specialized in their training and presumably in aptitudes. Both groups are completing definite preparation for teaching.

2. Social and economic background. The music students come from homes of better cultural and probably better economic background. Their families were probably better socially adapted. In spite of the apparently favorable background, more of the music students report dissatisfaction with their homes, and that they were treated worse than their brothers and sisters. Paternal influence was greater for the music students. The evidence is conflicting regarding possible tendencies toward introversion or extroversion.

3. Intelligence. The student-teachers rate

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decidedly above the music students on general intelligence.

4. Commonality of response. The student-teachers secure a considerably higher mean score on commonality of association, pointing to the probability of greater extroversion.

5. Leisure time activities. The music students surpass the student-teachers in average number of leisure time activities engaged in and reported through the Trow questionnaire. In particular, the music students participated in more uplift activities and social activities, but they read somewhat fewer non-professional books.

6. Attitudes and interests. The student-teachers have higher tastes in reading, are more interested in science, oral self-expression, managing people and leadership, and activities involving social contacts, care more about social usage and social opinion, have more intellectual interest in religion, are more concerned about social progress, free speech, labor attitudes, good international relations, and a relatively broad conception of patriotism, are interested in a wider range of occupations, and are tolerant of people of more varied types. The music students care more for financial success, music, personal family relationships,

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sentiment, friendship, orthodox religious views, and are interested in a narrower range of occupations.

7. Socialization. The student-teachers markedly surpass the music students in general degree of socialization, and also in most of its aspects as analyzed out by Hart. The music students surpass the student-teachers only in insensitiveness to social opinion.

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CHAPTER XII. INTERRELATIONS OF FINDINGS

A. GENERAL

Each of the nine preceding chapters has reported a comparison of two groups with each other, without reference to other groups except incidentally. It is the purpose of the present chapter to bring together the facts which have been reported, with a view to answering several significant questions. Each of these questions is of interest and significance in itself, but they form to some degree a sequence. They may be stated as follows:

1. How do the differences between the younger and older teachers, teachers without degrees and teachers with degrees, and duller and brighter teachers correlate with the differences between college sophomores and teachers-in-service?

2. To what extent and in what respects is the group of student-teachers intermediate in attitudes and interests between the sophomores and the teachers?

3. To what extent are the relationships between intelligence and attitudes, which are found for the sophomores, likewise present for the teachers?

4. What is the significance for attitudes of specialized capacity and training in the field of

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public school music?

5. In terms of the current conception of introversion-extroversion, how do the several groups of this study compare with each other?

6. What evaluation from the standpoint of social welfare and desirability should be placed upon the attitudes revealed by the several groups measured?

7. Can a brief summary be made to cover the typical attitudes of the teachers measured?

The first of these questions suggests the possibility of interpreting the differences between the major groups studied in terms of such conditioning factors as age, training, and intelligence.

These same factors may apply not only to the explanation of differences and similarities between the sophomores and teachers, but also with reference to the attitudes typical of the product of the intensive five-year training course of the University of Cincinnati, as characterized in answer to the second question.

The third question faces still more definitely the problem of the factors conditioning attitudes. The factor given especial study is intelligence, to the degree that it affects attitudes in each of two different groups.

The major groups of this investigation form a

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sequence, - sophomores, student-teachers, teachers -, with the exception of the music students. Question 4 involves a discussion of the significance of their highly specialized talents and training, which set them in a sense apart from the regular college students and academic teachers.

Following consideration of the several questions regarding the detailed attitudes of the major groups, and the effect upon these of various conditioning factors, the question is raised of a single concise statement of the differences found in attitudes and interests. In question 5, the introversion-extroversion scale is suggested as a basis for such a statement.

The sixth question raises the fundamental issue of the evaluation of the attitudes of the several groups studied, in terms of social welfare and general desirability. Although not all of the attitudes revealed in this investigation can be properly evaluated with the data at hand, and perhaps none can be adequately evaluated, yet the general technique is laid down for appraisal of attitudes.

Finally, it is questioned whether a brief summary can be prepared of the usual attitudes of teachers. Much interest attaches to the picture of the typical member of a group. This question is directed toward

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the statement of the attitudes characteristic of the majority of the teachers.

B. COMPARISON OF THE DIFFERENCES BETWEEN SOPHOMORES AND TEACHERS WITH THE DIFFERENCES BETWEEN YOUNGER AND OLDER TEACHERS, TEACHERS WITHOUT DEGREES AND TEACHERS WITH DEGREES, AND DULLER AND BRIGHTER TEACHERS

The two largest groups studied were the groups of sophomores and teachers. These number 37 and 81 cases, respectively. These groups also represent the extremes among the basic groups. The sophomores are relatively young, are not trained professionally, and are in fact almost wholly unselected from the vocational standpoint. The teachers are considerably older, have had much professional training and experience, and are highly selected from the vocational standpoint. On the whole, more striking differences might be expected between these two groups than between either of them and the student-teachers. The music students, who compose the fourth major group, are highly specialized in a way not characteristic of the others, and deserve special consideration (see section E of this chapter).

It is proposed to give special attention to the comparisons which the data afford of the sophomores with the teachers, paralleling these findings with the

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evidence regarding the relations between attitudes and age, training, and intelligence, as seen in the group of teachers. To some degree, these parallels may suggest explanations of the differences in attitudes between the sophomores and teachers. On the other hand, the factors affecting a comparison of any two such groups as the sophomores and the teachers, are so complex that any attempt to disentangle the influence of age, training, and intelligence, at least by the methods of this research, must be suggestive rather than conclusive. *

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* For the statistical data supporting the following statements, together with a detailed treatment of these findings, see Chapters III, VI, VII, and VIII, with their accompanying tables.

Brief mention may first be made of the general differences between the sophomores and the teachers. The teachers average almost 14 years older than the sophomores (mean ages 34 and 20). The age difference is slightly greater than the difference in mean ages between the younger and older teachers. The mean ages of these two groups are approximately 28 and 40 years, respectively. In training, the sophomores rate in years of education with those teachers who have completed a two-year normal course, but the type of education which the sophomores have had is doubtless more like that of

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the teachers who hold college degrees. From the standpoint of intelligence level, there is probably little to choose between the sophomores and the teachers, although the evidence is inconclusive. The teachers certainly do not rate markedly below the sophomores in intelligence.

As stated in Chapter III, the difference between the sophomores and the teachers are doubtless partly due to experience and training and partly due to selective factors.

Social and economic background. The sophomores and teachers are differently selected with reference to social and economic background. Indications are that the teachers come from less favorable home and family environments, such as would be more likely to produce tendencies toward introversion.

The factors of age, training, and intelligence are not related to similar differences in social and economic background, so far as the evidence at hand shows.

Commonality of response. The sophomores do not differ materially from the teachers in commonality of association.

No significant difference is found between the younger and older teachers, but the college graduates

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rate above the normal school graduates, and the brighter teachers above the duller.

Leisure time activities. The sophomores participate in far more of the activities listed by Trow than do the teachers, with the exception of uplift activities. In similar fashion, although not to the same degree, the younger teachers participate in more activities than the older, with the exception of the uplift activities. Significant differences are not found in the total activities scores as between the groups differentiated by training and intelligence.

It seems likely that age affects participation in the activities listed, at least to a considerable degree. Selection may also be at work, but age is doubtless a large factor here.

Attitudes toward various personal activities and satisfactions. The teachers are decidedly more interested than the sophomores in success in work and in financial success. So also are they in high grade reading, in intellectual matters generally, and in craving for truth. The teachers are also somewhat more interested in manual work and mechanical matters. On the other hand, the sophomores are more interested in sports and outdoor recreations, in popular reading matter and light entertainment, in humor, and in oral self-expression.

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They attend far more social functions, see far more shows and take far more physical exercise than do the teachers (Trow's questionnaire).

Explanations for some of these differences are not far to seek. The teachers are 14 years older on the average, than the undergraduates. Age has brought responsibilities which may well affect attitudes toward work and money. A comparison of the younger and older teachers is suggestive here. Thus, financial success, intellectual matters and craving for truth, and manual work and mechanical matters are valued more highly by the older teachers, while sports, outdoor recreation and humor arouse more interest in the younger teachers.

Training may play a part in certain of these differences. The college trained teachers surpass the normal school trained teachers in interest in reading about sports, in outdoor recreation (except walks), in humor, and in oral self-expression. The normal trained teachers are more interested in popular reading and in manual work and mechanical matters. Training certainly is not the only factor here operative. The sources for normal school and university student-bodies must be considered; e.g., rural as against city, and homes of moderate resources as against those well-to-do. Evidence is inconclusive regarding differences in economic status

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in the families of these groups, but the probability is that more of the normal school group come from a rural environment.

The third general factor for comparison, although not for explanation in this instance, is intelligence. The brighter teachers are more interested in high grade reading, in intellectual matters generally, in humor (except Charlie Chaplin), and in oral self-expression. The less intelligent teachers show greater interest in sports and outdoor recreation, in popular reading and light entertainment, and in manual work and mechanical matters. These differences are in the main easy to understand. Since the sophomores probably do not differ materially from the teachers in intelligence, intelligence need not be considered as a factor affecting the differences between the two major groups.

Attitudes toward various people and relationships with people. The sophomores show greater interest than the teachers in activities involving social contacts, place greater value on conformity to social usage, and are more susceptible to unfavorable social opinion. They probably have a greater sentimental attachment to their family life, and likewise to friends. On the other hand, the teachers are more interested in managing people and leadership, and are more inclined to like progressive

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people, conservative people, and people more intelligent than themselves.

How far does age go to explain these differences? The younger teachers are more interested than the older in managing people and leadership, in contrast to the differences just noted between the sophomores and teachers. Also in contrast may be noted the greater regard of the older teachers for children and matters of sentiment. The older teachers are more inclined to like people who are conservative, people who are progressive, and people more intelligent than themselves.

How far does selection with reference to training explain the factors? The normal school trained teachers are more susceptible to social opinion. They have a good deal more sentiment for family relationships, both personal and general, for children, and for home, than have the college trained teachers. They care more for conservative people. Few other significant differences are found for this group of attitudes, between the college graduates and the non-graduates. It is interesting to note, in connection with the greater attachment of the normal school graduates to family ties, that answers to certain questions on personal histories indicate greater maternal influence in their homes than in the homes of the college graduates. Training apparently is not an

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adequate explanation for the differences between the sophomores and teachers, in attitudes toward relationships with people.

The intelligence function is interestingly correlated with certain of these attitudes. The less intelligent teachers care more for managing people and leadership. They are more interested in reading about child care, and in personal family relationships. They are more inclined to like people more intellectual than themselves. On the other hand, the brighter teachers are more sensitive to social opinion and care more about friendship and matters of sentiment. As has been noted before, intelligence is probably not an important explanatory factor for differences between the sophomores and teachers.

What is left for explanation, after age, training, and intelligence have been found inadequate as explanatory factors, is a combination of selection and training. Thus, selection has probably operated to eliminate from the teaching group more of the socially inclined and relatively sentimental young women, such as are included in the group of sophomores. Perhaps susceptibility to social opinion and susceptibility to marriage are positively correlated - who knows? It is probable also that certain attitudes have changed during the past 14

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years, on the part of the average teacher. Such changes, however, are apparently not clearly in line with the differences found now existing between the younger and older teachers.

Attitudes toward various social, moral, and religious problems. The sophomores have greater intellectual interest in religion, and likewise greater indifference to religious creeds, i.e., to orthodox religious sentiment. They are more interested in such proposed reforms as repression of gambling, abolition of capital punishment, and social justice for negroes. They are less concerned about good international relations in the abstract, but have a less narrow conception of patriotism, as shown by their greater inclination to believe the statement "The United States has at times been tyrannical toward weaker nations," and to deny the statement "No country ever had as good laws, or as good a government, or a culture as good in any way as we people of the United States have." The teachers are decidedly more orthodox in religion, more interested in working for social progress, in freedom of speech and opinion, and in world disarmament and a federation of the world.

The older teachers are somewhat more conservative than the younger in regard to religious orthodoxy, are

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more interested in working for social progress, and in freedom of speech and opinion, and are more sympathetic with labor viewpoints. They have more general interest in good international relations and in negro welfare. They believe less in severe punishment as a remedy for crime. In the main, these differences are in line with the differences between the sophomores and the teachers. It may not be assumed that this relationship necessarily implies that the differences between the teachers and the sophomores are due to changes with age. Just as the teachers are more highly selected than the sophomores, the older teachers are probably more highly selected than the younger. On the whole, for the older teachers more than for the younger, teaching appears to be a social service occupation. This fact stands out when the younger and older teachers are compared with reference to socialization. It is interesting to note that the younger teachers are more interested in better pay for school teachers.

The teachers with degrees are more intellectually interested in religion than are the normal school graduates, but are less orthodox in their views. The college graduates are more interested in freedom of speech and opinion, in labor problems and labor views

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(this does not mean interest in radicalism), and have a broader conception of patriotism. It may be noted that the college graduates in some respects differ from the normal school graduates as the teachers differ from the sophomores, while in other respects the reverse is the case. It is in the field of attitudes toward such questions as those indicated here that training might be expected to be most affective. The evidence is not clear, however, to what extent the differences between the college students, a homogeneous group from the standpoint of training, and the teachers, a heterogeneous group from the standpoint of training, are due to differences in training.

The more intelligent teachers stand out above the less intelligent in general interest in religion, but not in orthodoxy, and in concern for freedom of speech and opinion, for social progress, for good international relations, and for a less narrow conception of patriotism. They are more interested in reading about labor problems, and adopt a rather conservative labor attitude. The duller teachers are apt to be more radical or more conservative with regard to labor questions. The brighter teachers have a stronger belief in severe punishment as a remedy for crime, care more for negro welfare, and care less for teaching. It is interesting

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to note these relationships between scores on a standard intelligence test and attitudes on social questions; in spite of much loose talk about the attitudes of the "intelligentsia," few studies have been reported on the attitudes of the intelligent. The findings here do not help, however, in explaining the differences found between the sophomores and the teachers.

Attitudes toward various occupations. The sophomores are more favorable, and the teachers more unfavorable to occupations which appear to have mental activity dominant, in contrast to motor activity, to have major contacts with people or with words or books, and to be considered romantic or on the borderline between prosaic and romantic.

The younger teachers show slight tendencies to prefer activities in which the major contacts are with people or with words or books, and which are more apt to be regarded as romantic. These differences are in line with those between the sophomores and the teachers.

Teachers who do not hold degrees tend to prefer motor occupations, those in which the major contacts are with things, and to a slight degree, the occupations which are more apt to be considered prosaic. Again, these differences harmonize with those between the

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teachers, many of whom are normal school graduates, and the sophomores, who represent college students.

The duller students tend to care more for occupations in which the dominant activity is mental and in which the major contacts are with people. These differences are not correlated with the differences between the sophomores and the teachers.

Socialization. The sophomores rate as less highly socialized than the teachers, in terms of the total score derived for the Hart test.

The younger teachers likewise are less socialized than the older teachers, and the teachers without degrees stand considerably below the teachers who are college graduates. On the other hand, intelligence is practically unrelated to socialization for the teachers, so far as the total score is concerned. The factor of age reveals differences in line with those between sophomores and the teachers, but the factor of training indicates differences in the opposite direction. Probably one must fall back upon the explanation of selection rather than those of specific training and change with age, if he wishes to explain the evident superiority in socialization of the teachers over the sophomores.

A number of relationships have been shown between the differences existing between the sophomores and the

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teachers, and the differences which appear when the younger teachers are compared with the older, the teachers without degrees with the teachers with degrees, and the duller teachers with the brighter teachers. Satisfactory evidence is not at hand to show that these factors of age, training, and intelligence furnish adequate explanations of the differences between the sophomores and the teachers. The differences revealed when the teacher group is divided along these three lines are suggestive, but not important. In interpreting the differences between the sophomores and teachers, one must yet use a large measure of common sense, and take into account factors of experience and selection which are not evaluated in numerical terms in this research.

C. POSITION OF THE STUDENT-TEACHERS IN THE SEQUENCE, SOPHOMORES -- STUDENT-TEACHERS -- TEACHERS

1. GENERAL STATEMENT

The student-teachers occupy an intermediate position between the sophomores and the teachers, in a certain sense. Many of the teachers have been student-teachers, and all of the student-teachers have been college sophomores. The student-teachers are thus seen to be selected from the sophomores, while the teachers include a considerable number of former student-teachers, plus

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many other individuals with less training. The tendency in the Cincinnati schools is for the student-teachers each year to furnish a larger proportion of the teachers required for placements and additions to the staff.

Differences found between sophomores and student-teachers must largely be attributed to the vocational selection of the latter, and the additional training which they have had. Differences between student-teachers and teachers may likewise be due to differences in training, in age, and in selection. The student-teachers, however, represent but one group of the many from which the teachers are recruited. No expectation would be justified, therefore, that differences found between sophomores and student-teachers would also be found uniformly between student-teachers and teachers, with the student-teachers always occupying an intermediate position.

The fact is noteworthy that in spite of no very strong logical reason why the student-teachers should be intermediate, they do occupy such a position, in the main. A brief discussion of certain findings will bring this out clearly.*

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* For a detailed treatment of these findings, together with the statistical data basic to them, see Chapters III, IV, and V, with their accompanying tables.

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2. EVIDENCE ON THE QUESTION

Social and economic background. To a measurable degree, the differences in social and economic background between the sophomores and student-teachers parallel differences between the socially and the mechanically inclined groups of Freyd's investigation, with the sophomores resembling the socially inclined, and the student-teachers the mechanically inclined. Likewise, the student-teachers and teachers, in comparison with each other, are respectively more like the socially and the mechanically inclined. So far as social and economic background form a basis for tendencies to introversion or extroversion, the sophomores might be expected to be more extroverted than the student-teachers, and the student-teachers more extroverted than the teachers. It may be stated here that this is found to be the case, when a thorough check is made upon tendencies to introversion or extroversion (see section F, this chapter).

Intelligence. The student-teachers undoubtedly surpass the sophomores in general intelligence, although the immediate evidence regarding this is inconclusive. The student-teachers likewise slightly surpass the teachers. The difference is reliable, however, and the teachers rate higher than theoretical considerations would

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predict. In this instance, the student-teachers are at least as high as and perhaps higher than each of the other groups.

Commonality of response. Only unreliable differences are found here.

Leisure time activities. The sophomores engaged in more of the leisure time activities listed than the student-teachers, and the student-teachers more than the teachers.

Attitudes and interests. The differences between the sophomores and student-teachers in attitudes are not highly marked, but have a definite trend in the same direction as the differences between the sophomores and the teachers-in-service for the corresponding stimuli. The student-teachers and the teachers also show differences in attitudes parallel in trend to those between the sophomores and the teachers. *

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* See summaries in Chapters III, pp. , IV, pp. , and V, pp.

The differences in attitudes between the sophomores and the teachers are more numerous and striking than those in which the student-teachers are involved. Frequently, marked differences between the sophomores and teachers are found to a less marked degree as between the sophomores and student-teachers, and are too small

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to be noted as between the student-teachers and teachers.

The general trend is for the student-teachers to rate in their attitudes and interests largely intermediate between the sophomores and the teachers.

In regard to preferences for occupations, the sophomores care more than the student-teachers, and the student-teachers more than the teachers for occupations which are regarded as romantic and which involve primarily contacts with people. Again, the student-teachers rate intermediate.

Socialization. In total score for socialization, the student-teachers rate intermediate between the sophomores and the teachers. The group of items which Hart selected as indicating intellectuality and craving for truth does reveal the student-teachers as superior both to the sophomores and to the teachers. In most of the other aspects of socialization, however, the student-teachers rate even with the sophomores or the teachers, or in between these two groups.

3. DISCUSSION

The general tendency of the student-teachers to find a level intermediate between the sophomores and the teachers measured in this investigation suggests

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certain speculations. It seems highly likely that the differences between the sophomores and the student-teachers are a matter primarily of selection, since all of the student-teachers were college sophomores some three or four years ago. The fact that the differences between these groups are in the same direction, although to a smaller extent, as the differences between the sophomores and teachers, suggest that the same factors are operating to select those who shall be student-teachers as operated in the past to select the teachers-in-service of today. It does not seem plausible that the attitudes measured in this study and held by the student-teachers when they were sophomores, would have been changed materially in the direction of greater similarity to the attitudes of the teachers, merely by earning eighteen semester hours in education and doing practice teaching for eight months. It seems more probable that the attitudes and interests of these young women affected their choice of vocation, rather than that choice of vocation and consequent training affected the attitudes in question.

At the same time, the reader will note that the differences between the sophomores and the student-teachers, although in the same direction as those between the sophomores and the teachers, are less marked. This

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may mean either of two things - that the selective process continues, resulting in intensifying differences noted between the sophomores group from whom the teachers are recruited, and those who accept the call to teaching, or that membership in the teaching profession results in gradual change in the individual's attitudes, in the direction of strengthening the attitudes which differentiate those who enter teaching from those who do not. Both of these suggestions may well be in order. Further research is needed to disentangle the factors involved.

D. RELATIONSHIP OF INTELLIGENCE TO ATTITUDES IN SOPHOMORES AND TEACHERS

Differences between duller and brighter teachers, and between duller and brighter sophomores have been discussed in Chapters VIII and IX. No attention was paid in these chapters to the fact that the differences found for the one group were not in all cases identical with the differences found for the other group. As a matter of fact, some interesting disagreements are found, as well as a fair amount of agreement, when the differences between duller and brighter sophomores are compared with the differences between duller and brighter teachers. Brief summary

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may be made of the facts. *

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* For a detailed treatment of the findings summarized in the following sections, together with the statistical data basic to them, see Chapters VIII and IX, with their accompanying tables.

Differences correlated with intelligence which are uniform for sophomores and teachers. For both sophomores and teachers, the duller subjects are more interested than the brighter in financial success, reading about sports, items suggesting general scientific interest, a relatively narrow conception of patriotism, better pay for school teachers, and occupations in which the major contacts are with people. For both groups, the brighter subjects are more interested than the duller in humor, items suggesting susceptibility to social opinion, items suggesting general religious interests and viewpoints, a relatively broad conception of patriotism, severe punishment of crime, and occupations in which the major contacts are with things or with words or books. In both groups, there is no significant difference between the duller and brighter subjects in total participation in the leisure time activities listed in Frow's questionnaire. In both groups, likewise, the duller and brighter subjects score about on a par in general degree of socialization. In both cases, the duller subjects are superior to the

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brighter in degree of socialization as measured by objection to repression of freedom of speech.

Differences found for one group, which are reversed for the other. Differences found for the sophomores which are reversed for the teachers are as follows: The duller students are more interested than the brighter in labor problems and labor viewpoints, and have a wider range of occupational distastes. The brighter students are more interested in manual work and mechanical matters, in managing people and leadership, and in teaching. Although there is no significant difference in general degree of socialization, the duller sophomores rate higher than the brighter in international and interracial mindedness, interest in economic justice, and indifference to certain miscellaneous interests. All of these differences are reversed for the duller and brighter teachers.

Differences found for the sophomores and not for the teachers. A number of differences appear for one group and not for the other. For the sophomores, the duller subjects are more interested than the brighter in occupations which are regarded as prosaic rather than romantic, and the brighter subjects are more interested than the duller in success in work, religious

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orthodoxy, general social progress, and relatively prosaic occupations. The duller sophomores rate higher than the brighter on socialization as measured in regard to indifference to religious creeds and unconventionality, and the brighter sophomores rate higher in regard to indifference toward light reading, and indifference toward business success. The duller teachers do not differ materially from the brighter in these respects.

Differences found for the teachers and not for the sophomores. In similar fashion may be mentioned certain differences between the duller and brighter teachers, which do not hold between the duller and brighter sophomores. The duller teachers are more interested than the brighter in living in the city, personal family relationships, certain proposed social reforms, and occupations in which the dominant activity is mental. The brighter teachers are more interested than the duller in items suggesting sensitiveness to personal discomfort and unpleasantness, in high grade reading, items suggesting sentiment, local politics, good international relations, negro welfare, and occupations in which the dominant activity is motor. The duller teachers rate as superior to the brighter in socialization as measured by insensitiveness to social opinion and indifference toward personal comfort,

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and the brighter teachers rate as superior in general altruism, intellectuality and craving for truth, and intellectual interest in religion. All of these differences are for items or topics which are not differential as between the duller and brighter sophomores.

Interpretation. The study of the relationship of intelligence to attitudes in two different groups reveals many differences found in one group which fail to appear in the other. In a number of cases, the differences found in one group are in fact reversed for the other.

There is no reason for surprise at these facts. They fall under the general principle that a correlation maintaining in one group may or may not maintain in other groups. For example, chronological age and mental age are usually found to correlate positively for a large group of children representing all levels of instruction in an elementary school, negatively for a group of children in a single typical grade, and zero for a group of adults, whose ages range (let us suppose) from 30 to 50.

The obvious lesson is that it may not be assumed that attitudes correlated with intelligence for one group will correlate with intelligence to the same extent and in the same direction for another group. It

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is indeed interesting to investigate the beliefs of the more intelligent teachers as compared with the less intelligent, as reported in Chapter VIII, but there is no assurance that the brighter members of another occupational group or of the population at large would differ from the duller in the same respects.

E. THE MUSIC STUDENTS AS A SPECIAL GROUP

As has already been pointed out, the music students stand apart from the other major groups. They are older than the sophomores, but have had about the same amount of education. They are younger than the student-teachers, yet are equally concerned with their professional careers as teachers. From the standpoint of general cultural education, they rate as inferior both to the sophomores and the student-teachers, and in all probability also to the teachers.

Two outstanding facts may be stated, in comparison of the music students with the sophomores and student-teachers. The music students rate as more introverted and as less socialized (sections F and G of this chapter). From the standpoint of introversion, their attitudes point to a poorer social adjustment and greater tendencies toward individualism than those found for the groups with which they have been compared. From

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the standpoint of socialization, the music students rate about equally low on desirable social attitudes.

Although these comparative statements do not indicate that the music students have undesirable attitudes, in any absolute sense, they certainly suggest that in the prospective teachers of public school music the teaching profession is receiving less desirable recruits, in terms of general factors of personality and attitudes, than in the other groups of prospective teachers.

Two questions may be raised with reference to this situation. One is whether or not attitudes found for the prospective public school music teacher are not largely those characteristic of musicians in general. The other is that of the extent to which a longer period of training, with consequently greater selection, would affect the attitudes characterizing the music students. Both of these questions must remain unanswered, so far as this research is concerned. Both suggest possibilities for further research.

F. GROUP COMPARISONS FOR INTROVERSION-EXTROVERSION

The concept of an extroversion-introversion scale for measuring personality has recently aroused keen interest among psychologists and educators. In a review

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of the literature upon this topic, Freyd gives what he calls composite definitions of the introvert and the extrovert. They are as follows (25):

> "Introvert: an individual in whom exists an exaggeration of the thought processes in relation to directly observable social behavior, with an accompanying tendency to withdraw from social contacts.
> "Extrovert: an individual in whom exists a diminution of the thought processes in relation to directly observable social behavior, with an accompanying tendency to make social contacts."

These definitions set the extremes of a scale of introversion-extroversion. The normal curve of distribution doubtless best describes the location upon this scale of the members of any group of people who are homogeneous as to race, sex, age, occupation, etc. This statement is verified in recent studies by Freyd (25) and Heidbreder (36). Freyd has suggested that "the greater objectivity of a distinction based upon ability to motivate people and ability to handle machines warrants the use of this criterion for distinguishing the extroverted from the introverted, rather than the criterion of facing reality or withdrawing from it" (25, p. vi).

Among the traits attributed to the typically extroverted person are greater social ability, credulity, suggestibility, adaptability, self-confidence, talkativeness, present-mindedness, and good nature. At

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the other extreme stands the clearly introverted person whose world is largely that of imagination, who prefers things to people, for whom fantasy is more important than reality, who is socially but poorly adjusted. The traits attributed to him include self-consciousness, care for details, inhibition, caution, reticence, absent-mindedness, and glumness (25, pp. v-vi).

Freyd has listed 54 traits supposed to be typical of introverts (23). Largely using Freyd's work as a basis, Marston has drawn up a rating scale for introversion-extroversion, originally designed for use with young children (51). Others who have done significant work on ratings for introversion-extroversion, include Laird, who has an extensive self-rating scale (44), and Heidbreder, who has studied the differential significance of the 54 traits listed by Freyd (36). Allport gives a brief discussion of introversion-extroversion, along lines differing somewhat from those pursued by Freyd (2, pp. 115-117). All of these discussions derive in large part from the work of Jung (41) and the German psychoanalysts generally.

For the purpose of determining as accurately as possible the differences with regard to introversion-extroversion between the groups of this research, a careful survey of the trait lists given by Freyd and Marston was made, in order to find traits measured in

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the present research.

Four of the measures which yielded means and ten of the topics included in the interest questionnaire were selected finally as yielding information on introversion-extroversion. The results are reported in Table . The following list indicates the reactions more characteristic of extroverts than of introverts, according to the literature reported and referred to:

Social and economic background: extroverts come from homes of better social adjustment, have a happier childhood, etc. (see Freyd, for discussion of this)
Commonality of association: higher score
Social activities (Trow Partial II): greater participation
Interest in social contacts (Attitudes VII): higher score
Occupations having major contacts with people: preferred to occupations dealing with things
Activities in which social contacts are important: liked
Activities in which social contacts are at a minimum: disliked
Manual work and mechanical matters: disliked
Oral self-expression: liked
Managing people and leadership: liked
Conformity to social usage: little regard for social usage
Susceptibility to social opinion: little regard for social opinion
Sentiment: little
Friendship: regarded as important

Table 734 gives the reactions with reference to these specific measures and attitudes, and also points out the general tendencies. It will be noted that the sophomores tend to be more extroverted than the student-teachers, and the student-teachers more extroverted than

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the teachers, the sophomores more extroverted than the teachers, the younger teachers more extroverted than the older, the teachers without degrees more introverted than the teachers with degrees, the duller teachers and sophomores more extroverted than the brighter teachers and sophomores, and the sophomores and student-teachers more extroverted than the music students. The finding of major interest is with reference to the greater introversion of the teachers in comparison with the sophomores. Some discussion of this finding is in order.

There is evidence in the present study to show that teachers-in-service are more introverted than the sophomores, and that the student-teachers occupy intermediate positions. Two questions at once arise: (1) whether teachers who are highly introverted are desirable; (2) how it happens that the teachers are on the average more introverted.

The first question, as to the desirability of introversion, can only be answered in general terms. Neither extreme introversion nor extreme extroversion is mentioned, in the psychological literature, as desirable, from the standpoint of the best all around personality, i.e., the best adjustment to the world of things and people. On the other hand, the teacher's

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occupation is one in which she deals largely with people. It is true that her major concern is with children or young people, but she needs a good social adjustment there no less than elsewhere. Withdrawal from the world of reality and lack of social adjustment and adaptability are obviously undesirable in teachers. It is probable that many teachers of today are too highly introverted.

Why does this degree of introversion exist among teachers?

The first possible answer is that the more introverted persons are selected for teaching in the first place, and that the process of elimination from the profession automatically takes out of it the more extroverted persons. The most obvious reason for this process is the fact that most women teachers are unmarried and that relatively few married women either enter teaching or remain in teaching. Extroversion means social adjustment, and social adjustment and adaptability in a woman mean greater likelihood of marriage. The prospect of marriage keeps out of the profession many who might enter, and the call of marriage claims from the profession its more extroverted members.

Direct evidence on this is not available. To

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secure such, it would be necessary to measure a group of prospective teachers, perhaps taking an unselected group of girls in high school, or possibly even as late as the sophomore year in college, and then following the careers of the members of the group. Those who marry at various ages might well be compared with those who remain single and in particular with those who teach. A study over a period of years is obviously called for. Lacking such evidence, we can only note the differences which appear between the sophomores and the student-teachers as being apparently indicative of selection of the more introverted for teaching.

In the second place, as teachers grow older, it is possible that they become more introverted, and that they tend to withdraw from the social world. Such traits, in so far as they really do characterize older teachers, may be the result of changes with age. The evidence is not at hand for separating differences due to selection from those due to experience, growth, and maturity.

G. EVALUATION OF ATTITUDES IN TERMS OF SOCIALIZATION

To what extent are the attitudes of the teachers more or less desirable than those of the sophomores?

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Do the more intelligent teachers show attitudes which are more acceptable to society than those of the less intelligent? How do the attitudes of the younger teachers compare in social value with those of the older teachers? These and similar questions may be raised for the various group comparisons reported in Chapters III to XI.

Obviously, the most common attitudes are not necessarily the most desirable. A more plausible assumption is that the attitudes of those teachers who are rated as the best teachers are more desirable than the attitudes of those rated as the poorest. In this study no ratings were secured on teaching ability or success, and such a comparison as the one just suggested cannot be made. Even if it were made, however, there is no guarantee that persons who are rated as possessing good teaching skill are superior to those rated as of lesser skill, in regard to the types of attitudes considered in this discussion. Possibly the attitudes of the more intelligent might be taken as a criterion. However, the more intelligent and the less intelligent do not show the same differences when they are compared in different groups of subjects (section D, this chapter), nor is there reason to expect a correlation of more than moderate degree between

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intelligence and desirable social attitudes.

As a matter of fact, the attitudes and interests studied in this investigation are only to a minor degree and for a relatively small number of teachers directly related to the business of teaching. Attitudes toward the economic, political, and social questions are, of course, important for the teachers of the social subjects. These teachers constitute only a small minority in the great army of teachers.

This study has been directed rather toward a survey of those attitudes which characterize teachers as members of society, as persons with responsibilities as citizens, obligations with reference to family life, capacity for development along cultural lines, etc. The assumption has been made tacitly that teachers ought to be normal human beings from the standpoint of temperament, social adjustment, and general personality make-up. That something is left to be desired in this regard may probably be inferred from the findings reported in the preceding section, on tendencies displayed by teachers with reference to introversion-extroversion. A second assumption which has been implied throughout is that teachers should represent socially desirable attitudes. Such attitudes are important with reference to the position the teacher holds as a guide and leader of youth and as a good

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citizen rather than with reference to the particular information and skills which she may impart. We are concerned primarily, if we adopt these two assumptions, that teachers shall present in their own lives as well as in the subject-matter of the school curriculum all that is finest and best in human experience.

The Hart test of social attitudes and interests was selected for use in this investigation primarily because it had been applied both to groups of unselected men and to a group of highly selected individuals, chosen as "leaders of social progress." Full discussion of the method of choice of these alleged leaders, of the attitudes of socialization which Hart sought to measure, and of his general technique has been given in Chapter II. In each of the group comparisons a section has been devoted to the measure of socialization which was derived from Hart's test. *

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* See Chapters III to XI.

It was found that the teachers surpassed the sophomores, the student-teachers surpassed the sophomores, the teachers surpassed the student-teachers, the older teachers surpassed the younger teachers, the college graduates surpassed those who were not college graduates, the brighter sophomores and teachers rated practically the same as the duller members of these groups, and the

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sophomores and student-teachers surpassed the music students, in general level of socialization. These differences of course do not hold for all the detailed reactions affecting the total socialization score.

It will be noted that the term socialization has literally been defined in terms of tendencies actually shown by individuals who are supposed to be highly socialized, in contrast to tendencies shown by relatively unsocialized individuals.

The method of procedure in evaluating attitudes is thus seen to be relatively simple and direct. A group of individuals is selected who possess desired attitudes. Measurable differences are then found between them and an unselected group, and on the basis of these differences a scoring method is devised for showing the degree of tendency for any individual or group similarly measured to approach the attitudes typical of the selected group in contrast to those of the unselected group.

The evaluation of the attitudes of the teachers, in terms of socialization, as made in this research, must be regarded as suggestive rather than final. It would be of interest to have a criterion group composed of women leaders of social progress, in contrast to the masculine group measured by Freyd. However, in the

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absence of a better criterion, that afforded by Hart's "leaders of social progress" is highly suggestive.

The present study has given a concrete illustration of the technique by which attitudes may be evaluated, and has reached tentative conclusions regarding the relative merits of the attitudes of sophomores, student-teachers, and teachers, of younger teachers as compared with older, of teachers with degrees as compared with those not holding degrees, of duller as compared with brighter sophomores and teachers, and of music students as compared with sophomores and student-teachers.

H. USUAL ATTITUDES OF TEACHERS

Some interest attaches to a picture of the usual attitudes of the various groups measured in this research. To present lists of reactions commonly given by each of the several groups, for comparison with each other, would tend to stress insignificant differences between the groups. The significant differences have been discussed elaborately in the body of this report. At the same time, it may be worth while to present the typical reactions of at least one group. For this purpose the group of teachers has been selected.

Table 735 lists all reactions to the items in the Likes-Dislikes lists and the Hart test which are common

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to 75% or more of Group C, teachers-in-service. It is interesting to note that 92 stimuli out of a total of 210 stimuli receive the same general affective reaction from at least three-fourths of the teachers. A 75% agreement was chosen arbitrarily as the criterion for inclusion of items in this table, the intent being to include only such items as clearly received similar reactions from a majority of the group. There is slight chance that less than 50% of the teachers would fail to give the indicated reaction were the group indefinitely increased in size.

Only one item in the entire list received 75% or more of strong reactions in the same direction. 79% of the teachers marked "better pay for school teachers" not only by drawing a circle around L, but also by putting one or two crosses in front of the L. In strong reactions, here and only here did the teachers agree to the extent of 75%.

It would be interesting to know the overlapping of the lists in Table 735 with lists which might be prepared similarly for groups of unmarried and married women who are not teachers. In large part, the reactions noted would doubtless be majority reactions for groups widely differing in occupations, training, age, etc. Data are not available for such comparisons.

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Many of the important differences noted occur only as the strength of reaction is taken into account. Strength of reaction has been disregarded in the preparation of these tables. They are included simply as an indication of typical attitudes on the part of the teachers measured, and not as a basis for comparison with other groups, either of teachers and pre-teachers or of persons not teachers.

I. SUMMARY

1. Age, training, and intelligence are variables affecting attitudes. As such, however, they do not explain adequately differences in attitudes found between sophomores and teachers. Selective factors must also be considered, but the present data are inadequate to permit disentangling their effects from the changes in individual attitudes which come with age.

2. The student-teachers rate generally intermediate between the sophomores and the teachers, both in test scores and in attitudes. Attitudes are probably among the determining factors in the vocational selection of the student-teachers. It seems likely that the selective process which is here at work continues to operate after formal entrance into teaching. Those who continue to

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teach either already possess or acquire the attitudes more characteristic of teachers.

3. The factor of intelligence is related to attitudes differently for the sophomores and for the teachers. Many differences between duller and brighter sophomores are not paralleled for duller and brighter teachers, and some are even reversed.

4. The public school music students are more introverted and less socialized than the sophomores and student-teachers. These differences may be due to the musical talents and training of the music students, or possibly in some measure to their lesser amount of general education.

5. Tendencies to extroversion and introversion were measured in several ways in the present research. It was found that the sophomores were more extroverted than the teachers, the sophomores more than the student-teachers, the student-teachers more than the teachers, the younger teachers more than the older, the teachers with degrees more than the normal school graduates, the duller sophomores and teachers more than the brighter, the sophomores more than the music students, and the student-teachers more than the music students. The desirability of recruiting teachers from the more introverted members of society may be questioned.

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6. Attitudes and interests may be evaluated in terms of the comparative reactions of an unselected group of subjects and a group selected for the possession of desired traits. In this investigation, Hart's alleged "leaders of social progress" served as a criterion group. The average scores in socialization, as measured by similarity in reaction to the "leaders," were higher for teachers than for sophomores, for student-teachers than for sophomores, for teachers than for student-teachers, for older teachers than for younger, for teachers with degrees than for teachers without degrees, for sophomores than for music students, and for student-teachers than for music students, and were approximately equal for brighter and duller teachers and for brighter and duller sophomores.

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CHAPTER XIII. SUMMARY AND OUTLOOK

A. GENERAL PROCEDURE

Groups of 87 college sophomore girls, 32 young women student-teachers, 81 unmarried women teachers-in-service, and 45 young women studying public school music were measured by a two-hour battery consisting of an intelligence test, an association test, a general interests questionnaire, an occupational interests questionnaire, a test of social attitudes and interests, a questionnaire on leisure time activities, a personal history questionnaire, and a self-rating device. Comparisons are made between the groups measured, in terms of all of the measures used except the self-rating scheme, which was finally abandoned for the purposes of this research.

The differences found are uniformly stated in terms of differences in percentage or differences between means. For all differences basic to the discussion, the reliability has been calculated in terms of the standard deviation of the difference. This statement of reliability has then been translated into the number of chances in 1000 that the difference would persist were the groups measured indefinitely increased in size, under the same conditions of selection and measurement.

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Differences found between the major groups of the investigation have been interpreted in the light of differences between sub-groups selected on the basis of age, training, and intelligence.

Correlations between measures have been used for explanatory purposes but sparingly. Group differences rather than correlations furnish the major basis for discussion.

B. MINOR CONTRIBUTIONS IN METHOD

1. A short form of Army Alpha was devised, consisting of four tests instead of eight, and correlating +.962 with the unabridged form.

2. A short method of scoring the Kent-Rosanoff free association test was devised, doing away with the necessity for the bulky and out-of-print frequency tables, and yielding scores for commonality of association which correlate +.993 with scores based directly upon the frequency tables.

3. Measures for ten general tendencies in attitudes and interests were tentatively devised. The determination of the reliability and intercorrelations of these proposed measures is left for further study.

4. A method for scoring reactions to the Hart test of Social Attitudes and Interests was devised.

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The score obtained is interpreted as an indication of degree of similarity in reaction to Hart's alleged "leaders of social progress," in contrast to his control group.

5. An original analysis and classification of the items in the Hart Test and of other selected items was worked out, to aid in the analytical discussion of attitudes.

C. MAJOR FINDINGS

1. Nine group comparisons were made, five between the basic groups, and four between the sub-groups. In each of these comparisons, differences and likenesses are noted with reference to social and economic background, intelligence, commonality of association, leisure time activities, attitudes and interests, and socialization. Typical of the findings are the following statements in comparison of sophomores and teachers:

> General. The sophomores are fourteen years younger than the teachers, on the average; they are less mature, still in school, not professionally minded, and in many more cases than for the teachers may be expected to marry within a few years.
> Social and economic background. The sophomores are probably more extroverted, the teachers more introverted, in terms of the differences in their social and economic backgrounds. The sophomores come from homes in better financial circumstances, with

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smaller families, and in which the mother has had more schooling. There is evidence that their families were better adapted socially, and that their parents were better adjusted to each other. The teachers report more maternal influence in their lives, and are less satisfied with their early environment.

Intelligence. Evidence is unsatisfactory regarding possible differences in intelligence.

Commonality of response. The association test yields no differences between the sophomores and the teachers.

Leisure time activities. The sophomores indulge in far more leisure time activities, and have a wider range of recreational interests. They enjoy more social recreation, more light entertainment, and more physical exercise, and read more non-professional books. The teachers engage in more uplift activities, especially church attendance.

Attitudes and interests. The sophomores are more interested in outdoor recreation, light reading and entertainment, and social relations; they care more about social usage and opinion, are more sentimental, and are more interested in family, friends, and children; they are less intellectual and less concerned about social progress, but have a less narrow patriotism; they have broader occupational, recreational, and social interests.

The teachers are more concerned about success, are more interested in mechanical matters and manual work, have higher tastes in reading and are generally more intellectual; they care more for managing people but less for social contacts; they are more conventional in religious views; they care more for general social progress, for free speech and opinion, for good international relations (conceived in abstract terms), for a narrow conception of patriotism, and for severe punishment of crime; they are apathetic toward problems of capital and labor, although no more so than are the sophomores.

Socialization. The teachers are in general more highly socialized, but not with regard to attitudes toward business success, religion, and certain aspects of international mindedness. (Chapter III)

Similar comparisons were made of sophomores and

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student-teachers, student-teachers and teachers, younger and older teachers, teachers without degrees and teachers with degrees, duller and brighter teachers, duller and brighter sophomores, sophomores and music students, and student-teachers and music students (Chapters IV - XI).

2. Comparisons of attitudes for teacher groups selected by age, training, and intelligence, do not yield adequate explanations for differences between sophomores, student-teachers, and teachers. Selective factors, especially the factor of marriage, cannot be disentangled from other factors affecting attitudes, with the data available.

3. The student-teachers stand in most respects intermediate between the sophomores and teachers. The differences in attitudes between these three groups seem more likely to be due to selective factors than to training for teaching or experience in teaching.

4. The factor of intelligence is related to attitudes differently for the sophomores and for the teachers. Many differences between duller and brighter sophomores are not paralleled for duller and brighter teachers; and some are even reversed.

5. The music students show characteristic attitudes of a more introverted and less socialized order than those of the other pre-teaching groups.

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In part their attitudes may be typical of musicians generally, and in part they may be due to the more specialized and relatively narrower character of the education of the music students.

6. Tendencies to extroversion and introversion were measured in several ways in the present research. It was found that the sophomores were more extroverted than the teachers, the sophomores more than the student-teachers, the student-teachers more than the teachers, the younger teachers more than the older, the teachers with degrees more than the normal school graduates, the duller sophomores and teachers more than the brighter, the sophomores more than the music students, and the student-teachers more than the music students. The desirability of recruiting teachers from the more introverted members of society may be questioned.

7. Attitudes and interests may be evaluated in terms of the comparative reactions of an unselected group of subjects and a group selected for the possession of desired traits. In this investigation, Hart's alleged "leaders of social progress" served as a criterion group. The average scores in socialization, as measured by similarity in reaction to the "leaders," were higher for teachers than for sophomores, for student-teachers than for sophomores, for teachers than for student-

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teachers, for older teachers than for younger, for teachers with degrees than for teachers without degrees, for sophomores than for music students, and for student-teachers than for music students, and were approximately equal for brighter and duller teachers and for brighter and duller sophomores.

D. THE OUTLOOK

The present research is primarily a survey of attitudes and interests of certain teaching and pre-teaching groups. No attempt has been made to develop methods of selection of teachers, or to discuss critically the growth and training of attitudes in teachers. These are important problems for further research.

At least four major studies are called for:

(1) A long-term study should be made to reveal the differences in attitudes and interests between those women who enter teaching and those who do not. College students might be measured, and the test results filed for later study, after the selective process has largely run its course.

(2) The relationship of attitudes and interests to teaching success should be studied. No one knows today the relationships between the attitudes and interests of teachers, especially their relatively

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personal and rivate attitudes, and their technical skill in teaching, the morale of their students, and the opinions held of them by their superior officers and by their employers, the public.

(3) Particular attitudes desired in teachers should be selected for training and the effect of training in these should be measured. Such work should be done in teacher-training institutions. Better criterion and control groups should be found and measured than those studied by Hart and treated as basic to the evaluation of the attitudes revealed in this investigation. The training of attitudes needs thorough study.

(4) A technique of selection of teachers and prospective teachers needs to be developed, whereby the personal factors thus far treated only in the relatively vague terms used in rating scales may be objectively measured and given their due emphasis. The type of test represented by Hart's Test of Social Attitudes and Interests promises to fit well into such a technique.

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