1965

Relation of Thought Communality To Training Experiences of Student Nurses, with Some Implications for Empathy

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RELATION OF THOUGHT COMMUNALITY TO TRAINING EXPERIENCES OF STUDENT NURSES, WITH SOME IMPLICATIONS FOR EMPATHY

by

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A Thesis Submitted to the Faculty of the Graduate School of Loyola University in Partial Fulfillment of the Requirements for the Degree of

Master of Arts

June

1965

ACKNOWLEDGEMENTS

The author wishes to express his appreciation to Charles I. Doyle, S. J., who directed the research for this study.

Special recognition also must be given to Vincent V. Herr, S. J., and to J. Warren Thiesen, Ph. D., for their helpful suggestions and interest in the project.

Deep indebtedness goes to the nursing directors and students of Augustana, Downey Veterans, Lutheran General, Passavant Memorial, St. Francis, and St. Therese hospitals. This project would not have been possible without the generous cooperation they showed.

I wish also to give special thanks to my wife.

LIFE

Charles Raymond Potkay was born on May 29, 1939, in Bridgeport, Connecticut.

He was graduated from Milford High School, Milford, Connecticut, in June of 1957, and from Loyola University of Los Angeles in 1961, with the degree of Bachelor of Arts.

In September, 1961, he began his graduate studies in clinical psychology, at Loyola University of Chicago. Between 1961 and 1963 he was a member of the staff of the Loyola Center for Guidance, where he completed his clerkship training.

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INTRODUCTION

A. Statement of Purpose

The purpose of this study is twofold: first, to determine the influence of nursing training on student nurses' capacity for communality of thought, as measured by the Loyola Language Study (LLS); and, second, to study the influence of psychiatric patient-contact experiences on this capacity, as opposed to general hospital patient-contact experiences. It is felt that the study will suggest some implications relating what the LLS may be measuring to current concepts of empathy.

B. Hypothesis I

Assuming that the types of patient-contact experiences student nurses receive in their practical training encourages an increased empathic approach to other persons, it is hypothesized that this increase will be reflected by improved scores on the LLS, over time.

The structure of the patient-nurse relationship requires that the latter be able to determine and help meet both outer and inner needs of the former. It requires utilization of a "capacity to identify with another, and experience vicariously what he experiences" (Dinello, 1958). Dinello viewed this capacity in terms of empathy. He noted that different occupations require varying degrees of the capacity for empathy as a determinant for success. He found that occupational groups involved in people-contact activities, such as in sales and managerial work, showed trends toward achieving higher scores on the LLS than groups that were not, such as in clerical and accounting work. His suggestion was that communality of thought would be more characteristic of some occupational groups than of others.

C. Hypothesis II

Assuming also that the nature of the psychiatric patient-nurse relationship, in particular, requires an even greater empathetic approach, it is also hypothesized that this will be reflected by significantly higher improvement on LLS scores by the psychiatric students than will be shown by students involved in general hospital relationships. Quoting from Katz (1963),

> The greater the need for empathic knowledge the more likely is the investigator to involve himself empathically with the individual who is the focus of his professional attention.

D. Implications for Empathy

The possibility of a relationship existing between the Loyola Language Study and "some sort of empathy" also was assumed in a study by Stewart (1963). He too made note of the positive trends between the types of values or interpersonal relationships a person has and his success in determining what other people would think, as measured by the LLS. He concluded with a recognition of "need for much more research in this whole area of empathy, which is of such supreme importance for studies of human interpersonal relationships."

The findings of workers in related areas lend support to some of the ideas emphasized above.

Halpern (1957) found that women who scored high on the Social scale of the Allport-Vernon-Lindzey Study of Values revealed higher predictive empathy than those scoring high on the Aesthetic scale.

Kandler and Hyde (1953) reported favorable change in empathy for 41 out of 50 student nurses, after eleven weeks of psychiatric affiliation.

In a study done by Hicks and Spaner (1962) at Downey Veterans Administration Hospital, psychiatric hospital experience was demonstrated to be effective in producing favorable attitude change toward the

mentally ill. The change occurred in student nurses over a twelve-week period. The hypothesis that attitude change would be greater for psychiatric as opposed to non-psychiatric nurses was strongly supported.

E. Description of the Loyola Language Study

A description of the Loyola Language Study might best begin by tracing its origin to Olof Johnson, in 1953. It was developed at Boston State Hospital, as a diagnostic instrument for differentiating psychotic individuals from normals. Johnson, and later Snider, assumed that schizophrenics in particular would be less able to comply with the requirements in the instructions to give common responses to the stimulus words than would normals. This assumption was confirmed, with antecedents appearing in other research in association (Kent & Rosanoff, 1910; Maller, 1934; Malamud, 1946). Normative groups were established in Boston, Chicago, and Seattle (Snider, 1954; Stanek, 1956; Guppy, 1959). State hospital patients in Boston and Chicago were matched with normals (Snider & Johnson, 1954; DelVecchio, 1957). Both studies showed the LLS to significantly distinguish between schizophrenics and normals. Herr (1957) reported such differentiations to be significant using three different systems of scoring.

The LLS was copyrighted in 1954 by Loyola University, Chicago, where it has undergone a decade of refinement and utilization as a re-

search instrument. The LLS basically is a semi-controlled word association test comprised of 80 of the 100 words from the original Kent-Rosanoff Free Association Test. It is distinguished from the latter by the limitations it imposes on the type of response to be given to the stimulus words. Whereas the Kent-Rosanoff Test asks the subject to give the first word that comes to his mind, the LLS asks him to give the one word he feels the greatest number of people would be most likely to give ("Please write next to each of the words the one word which you think the greatest number of people would be most likely to think of when they see or hear the word in the list.") V. V. Herr (1957) explains,

> Earlier investigations concentrated upon the reaction time for free association, and on the singularity of the responses which the subjects gave. The present investigation concentrates upon the fact of deviation from communality of responses, and attempts to quantify these deviations.

A shortened form of the LLS was developed, employing only the 25 highest validity items (each significant at the .01 level). Findings disclosed higher screening efficiency with the shortened test. As mentioned, validity coefficients have been found suitable for distinguishing patients from normals, but also for differentiating various degrees of metal illness (DelVecchio, 1957). Reliabilities have been found to be within the suggested ranges for this type of test. Herr (1957) reported a split-half reliability of between .88 and .94. Trainor (1958) reported a test-retest reliability of

between .49 and .55 over a three-month period. In addition to geographical area, patients and normals also have been matched for age and education. There are separate scoring norms for men and women. The test comes in booklet form and lends itself easily to group administration.

CHAPTER II

REVIEW OF RELATED LITERATURE

A. Development of Ideas about Work Association

Studies in word association have been among those traditionally reported in psychological experimentation. Galton, Wundt, and Cattell are all familiar as laboratory pioneers in word association.

Experiments in "free association," however, soon were taken out of the laboratory and put into clinical settings. Freud (1895) made it the basic tool of his psychoanalytic technique. Jung (1910) was the first to use it in a formal personality test procedure. Both men were convinced that free association would lead them onto roads to unconscious complexes. This second phase of development, the study of personality through association methods, had been begun earlier by Kraepelin. Freud (1920) himself cited investigations by Bleuler and Jung as having "built the first bridge between experimental psychology and psychoanalysis."

In an article titled The Association Method, Jung (1910) gave repeated emphasis to emotional factors as underlying the individualistic departures he observed in the association-and-recall administrations

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In an article titled The Association Method, Jung (1910) gave repeated emphasis to emotional factors as underlying the individualistic departures he observed in the association-and-recall administrations

of his 100-word test.

> It has long been thought that the association experiment enables one to distinguish certain intellectual types. That is not the case. The experiment does not give us any particular insight into the purely intellectual, but rather only into the emotional processes.

This emphasis of Jung's is felt to be one that is very relevant to the present study. It will be taken up further at the conclusion of the chapter.

Although Cattell and Bryant (1889) and Thumb and Marbe (1901) had begun earlier to deal with relative frequencies or commonality of responses to a given word on association tests, it was not until Kent and Rosanoff (1910) that an extensive normative study was undertaken to determine what these "common" responses actually might be. Kent and Rosanoff administered a test of 100 relatively neutral words to 1000 normal adults and 247 state hospital patients. Relying on an index of usualness of content, they found that the hospital patients gave 20% fewer "common" responses, but 20% greater "individual" responses, than the normal subjects. Kent and Rosanoff drew "no sharp distinction" between normality and pathology on the basis of their findings. They concluded instead that there was a gradual transition from the normal to the pathological. However, they did note that the one tendency which appears to be almost universal

among normal persons is the tendency to give in response to any stimulus word one or another of a small group of common reactions."

A third phase in the study of word association began with Maller's work in controlled association. Maller (1934) offered subjects a choice of two words from which to choose the best response to the stimulus. In this multi-choice situation, each choice-pair contained one association considered to be normal, and one considered to be abnormal. Using a list of 200 stimulus words, he found the average number of abnormal choices for normal subjects to be about 20. This was consistent with Kent and Rosanoff's findings of about eight non-common responses per hundred for their normal adults. Maller's Controlled Association Test also was found to differentiate between psychiatric and normal individuals.

The Loyola Language Study represents the newest development in controlled association. To quote from Braun (1963),

> The Loyola Language Study is the most recent and most thoroughly researched of the word association tests, in terms of reliability and validity and of a large and well standardized normative population. It has the further advantage of lack of transparency and of threat to the subject, and, of all the tests based on the hypothesis that deviation from commonality of response is an indicator of pathology, it shows the greatest degree of commonality among normal subjects.

The effectiveness of the control element in the LLS was validated in two separate studies. In both of these, LLS and free association results were compared. According to Trainor (1958), the number of common responses given by normal subjects successfully was increased by the LLS, to the .02 level of significance. Even (1958), working with an entirely female population of collegians, also cited significantly greater communality of response under the semi-controlled conditions of the LLS. These authors further noted that responses obtained under free association conditions tended to be the more unusual and wider ranging.

Substantiation of Trainor's and Even's conclusions may be found in a word association study by Jenkins (1959), which did not employ the LLS. Jenkins reported that "popular set" -- the set to give popular responses -- markedly increased his subjects' number of top frequency responses. He related gains in the scores to "social sensitivity."

Much of the research on the LLS has been concerned with determining the types of variables influential on the test.

LLS scores generally are inversely related to age (Stanek, 1956). Older persons tend to make lower scores on the test than younger ones. This, however, may be counteracted by education.

Education shows a constant relationship to the test scores, with

higher education being associated with greater communality (Stanek, 1956).

Females tend to achieve higher LLS scores than males, although not significantly so (Stanek, 1956). This parallels Noh and Guilford's (1930) observation of less communality of response for men than for women.

Stanek's study was extensive. It covered 400 males and 400 females in the Chicago metropolitan area. The age range of his subjects was between 19 and 54 years. The educational range was from sixth grade through college and beyond. The three influences of age, sex, and education were evaluated by him as being "definite but limited."

Logsdon (1963) was able to discriminate between elderly lay and Religious women, but not between those who were younger. The elderly Religious population showed lowered thought communality. The over-all results, however, were seen by Logsdon as too insufficient to allow use of the LLS as a screening device for Religious candidates.

Dinello (1958) noted a trend toward closer scores among persons with similar educational backgrounds, despite diversity in work occupations.

Intelligence, apart from education, has been found to be of negligible

influence (Stewart, 1956; Smola, 1956).

Stewart (1956) did not find college achievement to be an influential factor. His prediction attempts here showed negative outcomes. The LLS failed to predict either ACE scores or college grades. In turn, he concluded these same factors to be non-influential on LLS scores.

Area of residence was not seen by Guppy (1959) to affect LLS scores significantly.

The importance of test-taking attitude, and motivation, was discussed by Even (1958).

For an analysis of possible social and cultural influences that may affect results on association tests, free or controlled, the reader is referred to the work of Jenkins and Russell (1960). Their investigation of changes in word meanings may be summarized briefly by the following:

1) popular responses tend to increase in frequency over time;

2) changes in responses do occur, but top frequency responses show the greatest stability;

3) abstract and superordinate responses show a decrease in frequency over time.

No study was found in the literature attempting to determine the influence of nursing training on the LLS. Nor was there any report in

the literature pertaining to the types of changes that might be expected to occur between test and retest administrations of the LLS. Theoretical references to LLS scores in relation to empathy have been cited above (Stewart, 1956, 1963; Dinello, 1958). However, these references seemed more post hoc than sought directly. The present study appears to be the first to explore more directly the possibility of a relationship existing between thought communality and empathy.

Studies dealing specifically with female populations were present in the literature (Even, 1958; Logsdon, 1963). However, the scarcity of statistical data, along with differences in design or population, were seen as factors working against the drawing of meaningful comparisons with the population used in the present study. Indeed, the scarcity of published data for more specifically defined groups might begin to impede progress in future LLS studies, due to the limitations that are imposed on attempts to integrate new findings with existing data.

Goodenough's (1942, 1946) and Cobb's (1952) work with female populations in the area of free association also were seen as having minimal applicability to the current project. The main reason for this was these authors' concentration on content, as contrasted with the more quantitative approach of the LLS.

B. Development of Ideas about Empathy

The appearance of the concept empathy in the literature may be traced back to the beginning of the present century. Introduced by Theodore Lipps (1897, 1903, 1907, 1909), it initially was defined by him as a mysterious ability to feel with objects that are outside ourselves, whether the objects be things, situations, or persons. The word he used to define this psychological process, Einfuhlung, was translated into the English, "empathy", by E. B. Titchener.

Lipps' conceptualization basically is one that involves processes of abstraction and introjection on the part of the respondent toward an object. The respondent confronts the object, which he then takes in and reintegrates internally. The respondent tends to fuse with or absorb this object that is distinct from himself, while at the same time undergoing a certain loss of self-awareness. For Lipps, the key to the process was a form of inner imitation.

Although the context of much of his thinking might best be classified as an empathy of aesthetic experience, frequently Lipps brought out the importance of empathy in human experiences. He believed that it provided the source of our understanding of others. Many of his ideas have reappeared in later theories (Freud, 1922; Stewart, 1956; Lifton, 1958). His contributions clearly have been

influential in an area that traditionally has been elusive, and that still may be regarded as rather "mysterious."

In her 1960 publication, Arnold discussed the fundamental limitation of Lipps' theory -- its explanation in terms of kinesthetic sensations and bodily changes -- by concluding that feelings never can be derived from the awareness of a series of organic sensations. She referred to empathy as being "a special case of emotional identification." She believed that empathetic feeling toward another individual occurs "not because we imitate his expression but because we literally share his experience even though only in the imagination." She showed agreement with Allport (1937) on this question. Both regarded as inadequate a concept of empathy based on imitation through kinesthetic inference.

The classic example of kinesthetic imitation is to be found, of course, in Allport's (1937) book, Personality. Allport, too, highlighted the behavioral-type connection that was present between empathy and motor mimicry. His discussion included a photograph illustration showing the intense involvement of spectators at a pole-vaulting event. The legs of some of the onlookers were shown to be unconsciously lifted "as much as two feet off the ground." Allport saw Lipps as standing midway between the theories of inference and intuition.

Two of Lipps' ideas -- that empathy is a type of inner imitation, and that it enables one to gain an understanding of others -- appeared in Freud's very brief discussion of empathy. In Group Psychology and the Analysis of the Ego, Freud (1922) talked of the mutual relations that occur between the ego and objects, in terms of a path from identification to empathy, through imitation. Freud defined empathy as "the mechanism by means of which we are enabled to take up any attitude at all toward another mental life."

The idea that empathy underlies the emotional linkages between people has been retained in psychoanalytic literature to the present time. Ferreira (1961) recently has written of it as constituting a "bridge function" of the ego. He believes it to be basically a primary process expression, representing the "first emotional bridge between the human organism and his environment." Reflecting an earlier Sullivanian (1953, 1960) notion, he traces the roots of this bridge to the infant-mother relationship. Ferreira further felt that empathy was capable of appearing only in relatively normal adults, and that it progressively became less prominent, developmentally. Its greater prominence in childhood was seen by him as related to a lowered development of the secondary process at the earlier age levels, the years during which the higher adaptive element of symbolism in thought and verbal language still is relatively undeveloped.

He explained that whereas in the child, identity with others is associated most with perceptual activities, in the adult the perceptual element becomes mixed with the process of identification through thought. As such, in the adult, empathy is to be considered "a process of the ego."

Other analytically-oriented theorists also have dealt with empathy concepts. Perhaps the most popularized of these has been Theodor Reik who, in Listening with the Third Ear (1940), made reference to what he called "emotional contagion or communion."

A second psychoanalytic writer, Robert Fleiss (1942), has suggested the concept of "trial identification."

Fenichel (1945) placed stress on the cognitive element in empathy. He broke the process down into two acts: identification with the other; and awareness of the feelings then resulting in oneself, so as to be able to gain further awareness of the object's feelings.

By way of transition to the second of three phases to be discussed in this section, it might be pointed out that the majority of thinking in the area largely has been theoretical. Articles dealing with empathy more often than not offer a scarcity of empirical evidence regarding the nature, meaning, or measurability of the concept. Occasionally not even a bibliography is offered (Maddaloni, 1961). Con-

trolled studies of empathy have arisen mainly since the early 1950's. (Some of these observations may be seen more clearly by referring to the classification table of Buchheimer (1963) that appears in adapted form in Appendix I.) Ferreira (1961) writes of

> a dearth of reference to empathy in the literature; and these few references are almost invariably made en passant and with a disconcerting tangentiality that demonstrates the unclear nature of the phenomenon.

Perhaps the two most important reasons underlying the situation described above have been, first, only recent attempts to stimulate interest in the study of empathy and, second, implicit or explicit evaluations by potential workers that the concept itself may be too elusive or too complex to measure. Partially supportive here was an article the writer found by Cottrell and Dymond (1949) that had been written just prior to the relative upsurge of interest in 1950, noted earlier. The article was entitled "The Empathic Responses -- A Neglected Field for Research." It summarized the highly respected Sullivanian contributions of "participant observer," "consensual validation," and "self as reflected appraisals." It then related these to empathy, which has been recognized to be particularly important in therapeutic treatment situations. Finally, it concluded with the reporting of favorable preliminary findings in actual empathy studies.

In the more recent studies, most workers have adopted an approach to empathy that tends to equate it, operationally at least, with success on measures of predictive ratings or with role-taking ability. These measures may or may not be reflective of clinical or therapeutic empathy. The rationale behind them has neither been supported nor denied, empirically, but strong question continues to be raised (Speroff, 1953; Ferreira, 1961).

The few tests that exist purporting to measure empathy show inadequate background support, and inconclusive results, frequently on small, specific populations. Dymond's rating scale (1947), Kerr and Speroff's Empathy Test (1954), and Kerr's Diplomacy Test of Empathy (1960), have yet to prove their validity. Buchheimer's 1963 conclusion was that "we still do not have a dependable test for empathy."

Currently the most frequently employed definition of empathy found in the literature is that of Dymond (1948), who defines it as

> the imaginative transposing of oneself into the thinking, feeling and acting of another and so structuring the world as he does.

Dymond's (1949) approach to the problem was one that employed a series of inter-personal ratings. Her subjects were asked to predict ratings of themselves by others, and of others, along a five-point scale for each of six traits. The traits included self-confidence,

superiority, selfishness, friendliness, leadership, and sense of humor. Validity was determined by comparisons of the rating scores with external judgments of the subject's empathic ability on the basis of T A T protocols. The correlations arrived at were considered by Dymond to be satisfactory, but "hardly evidence" sufficient to warrant calling the rating scale a test of empathic ability.

According to Dymond, empathic ability was found to be related to healthy, effective adjustment (1949). People generally described as outgoing, optimistic, warm, and flexible, for example, tend to show greater empathic ability than those described as introverted, rigid and detached.

In conjunction with Hughes and Raabe, Dymond (1952) also reported a direct relationship between age and empathy, at least in children between the ages of seven and eleven. By and large, empathy was interpreted as increasing with age.

Hastorf and Bender (1952) later cautioned Dymond that successful prediction, of the type sought in rating scales, might be due to projection, and not empathy. In 1953, they proposed the use of a refined score that would correct for projection, particularly since there seemed to be a tendency for some of the subjects to project consistently.

Allport's (1937) earlier discussion of rating scales also contained a caution along these lines. He quoted Wolf and Murray (1936) as stating that a man best empathizes with persons whose responses resemble his own. Allport's own principle was that "Judges rate best those who are most like themselves."

Kerr (1947) developed a written test that could be group administered. This Empathy Test later was revised by him, in collaboration with Speroff (1951), and now appears in three different forms. It sought to measure a person's ability to determine group preferences in three areas. These areas included the ranking of fourteen types of music in order of popularity among office workers, the ranking of the paid circulation of magazines in order of most to least, and the ranking of ten experiences that would be most annoying to 40-year-olds.

In their 1954 evaluation of the test, Kerr and Speroff reported findings that showed empathic behavior to be independent of general intelligence and social leadership. Their findings also showed that empathy was favorably related to outgoing types of behavior and to the possession of constructive social values. The latter findings coincided with those of Dymond (1949).

Robert Thorndike's evaluation of this "so-called" Empathy Test in Buros' Yearbook (1954), made reference to it as showing no inherent validity. He noted that there was little empirical support for the test, apart from that offered by workers associated with the authors. He further emphasized the importance of the distinction between empathy in relation to a "specific" other, and in relation to the "generalized" other.

In Thorndike's scheme, Kerr and Speroff's measure would be seeking to measure empathic ability toward the "generalized" other. Dymond's rating scale, because of its particularized, one-to-one predictions, would involve measurement of empathy toward a "specific" other.

Kerr introduced The Diplomacy Test of Empathy in 1960, stating that it represented "the third major development in a fourteen-year empathy research program with the publication of the first objective test of empathy." This most recent test was comprised of the previously most valid items. Four validation studies were presented in the test manual, and these were largely industrial and corporational in make-up. Kerr believed them to "strongly suggest" that the development of the test was usefully valid.

Kerr's belief was questioned by Grossman (1962), in an

unpublished Master's thesis. An additional conclusion by Grossman, following his citing of five different studies on empathy conducted between 1956 and 1958, was that such tests are "limited in their usage," due to lack of standardization.

The third phase of empathy development will be discussed very briefly, mainly as a preface to Section C. Like the first, this phase also may be seen as somewhat theoretical. Unlike the first, however, it shows greater relevance to experimental studies, mainly those that were discussed in the second phase. Trends toward comparisons of different empathy studies, and differentiations of empathy concepts, begin to appear.

In his important review, The Ability to Judge People, Taft (1955) offered various perspectives to Lipps' "analytic" and "nonanalytic" modes of empathic responsiveness. Thorndike's (1954) distinction between "generalized" and "specific" empathy would be equivalents of these. Other equivalents would include "mass" versus "individual" empathy, "objective" versus "subjective" empathy, or "inferential" versus "intuitive" empathy. In the former, the empathizer tends to approach others in terms of socially shared and conventional frames of reference held toward groups and their members. In the latter, the empathizer tends to experience directly the thoughts and feelings of a particular

other, such as might be found in psycho-therapeutic contacts with others.

The distinction made between mass and individual forms of empathy has remained an important one. These two types of empathy consistently have been found to be uncorrelated with each other (Hall & Bell, 1953; Norman & Leiding, 1956; Katz, 1963).

Following Taft's (1952) distinctions between individual and mass empathy, for example, Norman and Leiding (1956) undertook a study to correlate separate measures for each. They used Dymond's 1949 scale (individual empathy) and the Mass Empathy Test developed by Norman and Ainsworth (1954). The latter was an adaption of the Guilford-Martin Inventory of Factors GAMIN. In its standard form, this test requested the subject to answer yes or no to an item such as "Do you express such emotions as delight, sorrow, anger, and the like readily?" In its adapted form, the test requested the subject to answer in the way he felt most other people in his group would answer -- "Do you think most people your own age and sex express such emotions as delight, sorrow, anger . . . ?"

Norman and Leiding first administered the test in standard form. After a two-week period, they then administered the adapted or Mass Empathy form. Majority yes or no responses were determined for each item, by the 51% highest response frequency on the first testing. Degree

of mass empathy for a particular subject was determined by the correspondence of his answers on the second testing with the majority answers computed from the first. The Dymond test also was administered.

The correlations between the Norman and Ainsworth and the Dymond tests were found to be close to zero.

This agreed with Hall and Bell's (1953) finding of "very low" correlation between the Dymond (individual empathy) and Kerr (mass empathy) tests.

Hastorf and Bender (1952) earlier had suggested that there were different behavioral dimensions to empathy.

C. Relation of LLS to Empathy Concepts

The double review of the literature presented earlier in the chapter provides the background for suggesting that certain parallels exist between the Loyola Language Study and empathy concepts. These parallels now are to be explored and summarized. (It is to be noted here that judgments pertaining to the validity of the empathy tests cited are being suspended here. The purpose of the study in this area mainly is to seek possible implications relating the LLS to current thinking about empathy.)

First, and perhaps most important, definite similarities may be

seen between the type of instruction employed on the LLS, and the types of instructions appearing on most tests purporting to measure empathy (Kerr, 1947, 1960; Kerr & Speroff, 1951; Norman & Ainsworth, 1954). There is a dual denominator common to both. The first is a request for the testee to predict a response; while the second involves the specification that the prediction be made in relation to some group of other persons.

Halpern (1957) referred to this as "predictive empathy," stating it to be a sensible approach to the study of empathy because it provided the concept with an operational basis.

The predictive element present in both the LLS and the tests of empathy just mentioned also is similar in that the type of group responses being sought fit Thorndike's (1954) classification of the generalized-other. With regard to his distinction, it will be seen that the LLS would not parallel, for example, the empathy scale of Dymond (1947), because of the latter's focus on a one-to-one, specific-other type of prediction.

This first similarity may be illustrated most clearly by comparing the following sets of instructions. The first was taken from the Loyola Language Study, the entire form of which appears in Appendix II. The second was taken from the Mass Empathy Test of Norman and Ainsworth (1954).

> LLS: write next to each of the words the one word which you think the greatest number of people would be most likely to think of when they see or hear the word in the list.
>
> Mass Empathy Test: answer the questions as you think most people of your own age and sex would answer them.

The second parallel to be discussed has to do with the LLS's original development as a diagnostic tool for differentiating schizophrenic individuals from normals. Schizophrenics have been reported as performing poorly on the LLS (Snider & Johnson, 1954; DelVecchio, 1957). Workers in empathy offer a parallel to this, for some have expressed the belief that the primary defect in schizophrenia is inadequate empathy (Hoskins, 1946; Jackson & Carr, 1955; Milgram, 1960; Ferreira, 1961).

In The Biology of Schizophrenia, Hoskins (1946) suggests that the primary defect so characteristic of schizophrenics is a defect in empathy, possibly giving rise to the remainder of the symptomatology.

> Perhaps as fundamentally characteristic as anything about the psychosis is the failure of the schizophrenic either to achieve or retain adequate breadth or depth of empathy.

Jackson and Carr (1955), in comparing empathic ability in normals and schizophrenics, highlighted the latter's "general deficiency in

the area of psychological closeness and identification with others." However, they believed the schizophrenics' lowering of empathy to be due less to any specific lack of ability than to their general variability as a group.

Milgram (1960), too, made reference to "the specifically empathic deficiency of the schizophrenics," relating it to a breakdown in role-taking skills. He administered multiple-choice word association tests to groups of schizophrenic and brain-damaged patients. He found that while both groups tended to fail in role-taking ability, they did so for different reasons-- empathic versus cognitive factors, respectively.

Ferreira's (1961) contribution here may be quoted as follows,

> The schizophrenic does not have a high degree of empathy. On the contrary, in my contacts with psychotics I have always been impressed by their lack of empathic capacity.

The third area of parallel between LLS and empathy literature concerns evidence of conflicting emphases present in each, regarding the relative importance to be given to cognitive and affective factors, in making for success in thought communality or empathy.

The matter of emphasis in empathy research was hinted at in the study by Milgram (1960), in which he concluded that cognitive and empathic abilities both were necessary for effective role-taking.

In applying these two factors to empathy, Buchheimer (1963) would seem to be in agreement here.

> The dimensions are in part affective and in part cognitive. The behavior is different from projection, attribution, or identification because it is more abstract, objective and generalized. An empathic reaction is not the reenactment of another person's feeling nor does it involve a judgement of another person's act. Empathy has an anticipatory quality. Though affective in part, empathy is an abstract and abstracting process.

Other empathy workers who have stressed the importance of abstract processes in empathy have been Lipps, Stewart, Taft, and Hall & Bell. Hall and Bell (1953) wrote of the need for a person "to assume the hypothetical average, " and "to combine a series of 'others' ' individual fields into an average."

The importance of cognitive and abstract processes have, of course, been emphasized repeatedly in LLS literature, where this emphasis realistically is in the majority. The most succinct reference to the cognitive importance was that given by Stewart (1963). His listing included "past experiences, reasoned evaluations, deliberations, choice, and other factors of ego control."

In explaining the lowered performance on the LLS by psychotics, the cognitive emphasis also has been stressed, as seen by Guppy's (1959) analysis.

> Persons who are mentally disturbed are unable to make a sharp distinction between the subjectivity in themselves and the social world about them.... Their internal life, not under good control of their more rational powers, tends to reveal itself, in spite of effort, in their verbalizations and behavior. Emotional illness then, can be thought of as a weakening of control over thought processes first, and over behavior subsequently.

Thus, in contrast to the question over the role of cognitive factors in empathy, the parallel question in LLS literature takes the reverse form--the role of the affective factors in thought communality.

Due to the nature of its set, the LLS obviously does become less subject to emotional influences than the free association tests. Nevertheless, it still seems unclear as to what may be underlying the schizophrenic's poor performance on this test.

Smola's (1956) introduction included mention of Bleuler's belief that the basic symptoms of schizophrenia involved disorders both of association and affect. Smola's own focus stressed the intellectual component of the person, the conformity with or deviation from normal thinking.

The apparently single exception to the underlining of cognitive influences on the LLS was Stewart (1956, 1963). The "tendency for the communality of thought scores to reveal personality traits" was brought out by him in both his studies.

The re-focusing of attention on emotional processes influencing scores on the LLS is considered to be relevant here for three reasons. First, traditional emphasis in word association, particularly that of Jung (1910), has stressed affective influences. Second, while the type of nurses' training experiences being studied in this project admittedly involves cognitive factors, an important part of these experiences also involves emotional components. Third, agreement among theorizers in schizophrenia clearly has not been achieved with regard to the basic defect, if a single basic defect can be assumed, of the disturbance (e.g., Arieti, 1955, as opposed to Hoskins, 1946). Schizophrenics are known to think differently than normal individuals. They also are known to feel differently.

The point to be made here, perhaps, is that some refocusing of approach to the Loyola Language Study, in terms of possible emotional influences that may be underlying unsuccessful performance on it, may merit further exploration. This seems particularly true in view of the definite similarities existing between the LLS and current tests purporting to measure the emotionally oriented concept of empathy.

CHAPTER III

PROCEDURE

A. Design of the Research

The design of this study is similar in many ways to one employed by Hicks and Spaner (1962). Their main emphasis, however, was on attitude change toward mental patients as a function of mental hospital experience, whereas the emphasis in the present study was on change in the capacity for thought communality. The similarities include utilization of 1) a pretest-posttest design, 2) a training interval of between 10-12 weeks, over which to measure possible changes, 3) an experimental group consisting of student nurses in psychiatric training at Downey Veterans Administration Hospital, and 4) a "non-equivalent control group" consisting of student nurses in non-psychiatric phases of training, in area general hospital settings.

In the present study, the Loyola Language Study was group-administered to a total of 84 student nurses, in the Chicago area, before and after a ten-week training interval.

Student nurses were used as the population for the present study on the following bases. Dinello's (1958) results pointed to trends toward higher

LLS scores by occupational groups known to have greater inter-personal contact in their work than groups not having such contact. Halpern (1957) indicated a positive correlation between empathic capacity and the possession of high social values. His population was made up of nurses. Change as a function of short-term hospital experience frequently has been reported on in the literature (Kandler & Hyde, 1953; Strunk, 1957; Weinstein & McCandless, 1959; Strunk & Reed, 1960; Hicks & Spaner, 1962).

B. Description of the Samples

Nurses' training programs utilize a platoon-type scheduling of assignments so that not all nurses undertake the same phases of training simultaneously. This allowed the experimental and control groups to be taken from the same classes of student nurses, thereby offering maximum homogeneity in terms of sex, age, education, and years of nursing training. These were the variables Stanek (1956) found to be most significant in influencing scores on the LLS.

All the subjects were females. At the time of the first testing all had completed two years of nursing training. The psychiatric phase of training was being started only by the experimental group. Tables I and II on the following page illustrate the homogeneity of the two groups, in statistical form.

The experimental group (psychiatric students) accounted for 44 of

TABLE I

Group mean and standard deviation comparisons of age, in years

	Groups	
Yrs.	Psychiatric	General Hospital
M	20.22	20.21
SD	.90	1.01

TABLE II

Group mean and standard deviation comparisons of education, in years

	Groups	
Ed.	Psychiatric	General Hospital
M	14.32	14.30
SD	.67	.60

the total number of 84 subjects. They were tested in a single group, initially, during their first day of orientation and, later, at the end of their last week of training.

As explained by Perlman and Barrell (1958), the psychiatric training program for nurses at Downey Veterans Administration Hospital may be divided into two areas: classroom instructions, and experience on the wards. The classroom instruction generally is devoted to the understanding of nurse-patient relationships. Meeting for ten hours each week, the students explore nursing care problems, correlating the lecture material with their clinical activities. The second area, ward experiences, involves about five weeks of practical experience in each of two clinical assignments, the male and female sections of the Acute and Intensive Treatment Service. For each five-week period, between two and four psychiatric patients are assigned to each student nurse for close, personal, understanding contact. It is not uncommon for the students to refer to their assigned patients as "my patients." The students invest a good part of their time with these patients, talking with them, escorting them to various activities, and relating to them in ways that generally attempt to foster a closer communication between them. Also coordinated with the nurses' experiences are exposure to, and participation in, such therapeutic activities as psychodrama and group therapy.

The control group (non-psychiatric students) was made up of the

remaining 40 subjects. As this group was in training at various local hospitals, it was not possible to test them in a single group, but rather in separate groups. There were five sub-groups in all. Each was tested at the installation specific to its training. The number of student nurses in these smaller groups ranged from five to fifteen.

C. Procedure

The LLS was presented to the subjects as part of a research project currently being conducted by Loyola University on the development of a new type of word test. The purpose of the project was said to be concerned with determining whether there might be some connection between the types of inter-personal relationships people have and their ability to do well on the new test. Earlier studies were mentioned as suggesting that people whose work involved them in daily contact with other people might tend to make higher scores on the test than those who didn't have much contact with others. As nurses are recognized as having much contact with others in their work, it was felt that they might be among the high-scoring groups. The research, therefore, was intended to find out if this would happen.

All subjects were asked to participate voluntarily. There were no refusals. While distributing the test booklets, the examiner asked all of the participants to write in the information requested on the back page, for

research purposes. The decision as to whether to write their name on the booklet was left up to each individual. After the booklets had been distributed, the examiner then read the instructions aloud. The author served as examiner in all administrations of the test.

Any reference to the program in which the student nurses were training was avoided. Nor was there any mention of a future re-test during the first session. These omissions were intended so as to minimize any possibility of threat that might have arisen through association of the research project with the training program.

General hospital nursing trainees were decided upon as the control group. These students would be equivalent to the experimental group except that they would not be undergoing the type of close inter-personal contact experiences of the psychiatric students. The difficulty of obtaining a group that would be undergoing no change at all was recognized. This would be true particularly for a group that otherwise would be equivalent. Also, the general hospital students would not be training as a single group but in sub-groups. They would have a variety of assignments, which would be staggered in time intervals.

In their training programs, each sub-group of general hospital nurses would be concentrating in from one to three different areas of assignments. These would include general medical and surgical, obstetrics,

orthopedics, gynecology, and pediatrics. The time interval for these different phases would vary between three weeks and the full ten weeks. Two of the sub-groups would be taking four weeks of summer vaction. Too, while one sub-group would be just beginning their training in pediatrics, another sub-group would be nearing completion in this area, or might even be beginning in an entirely different area, such as pediatrics. Finally, each sub-group would be entering these training phases in separate hospital settings, with different instructors and personnel. The diversity of expe-riences, settings, and time structures was in clear contrast to the more unified training experiences of the psychiatric nursing trainees.

D. Method of Deriving Root Scores

The system of scoring employed in this study is the method of root scores, based on the principle of geometric progression. In practical application, each single response made to a stimulus word obtains a score value of at least 1 (the square root of .25%, doubled). This is the value given to all singletons, or individual, responses. (Multiple-word and undeterminable responses are scored 0.) Scoring values thereafter are weighted geometrically on the basis of response frequencies derived from stratified samples of 400 subjects (1/400 = .25%), one male and one female. These response frequencies constitute the norms for the test, one set each for males and females.

All words that appeared four times or more in the normative sampling of 400 subjects are included in a response list for each of the stimulus words appearing on the test blank. Singleton responses do not appear on the lists, as their frequency is less than 1% (less than 4/400). The actual scoring is done by recording on the test blank the value for each of the subject's responses, assigning to each response the value shown on the list. These values then are summed for all the eighty words, resulting in a total score on the test.

The explanation of the scoring system, as it appears on the face sheet of the norms, reads accordingly,

> The score value for a given response is the integer closest to or exactly equal to twice the square root of its percentage frequency. Response words falling even slightly below this integer value are scored at the next lower level. A singleton response representing .25% thus earns a score of 1, since the square root of .25 equals .50, and twice .50 equals 1. Likewise, a frequency of 100 out of 400 yields a percentage of 25 and earns a score of 10 which is twice the square root of 25. Frequencies of less than 4, being less than 1% of the normative sample, earn a score of 1, just as the singleton responses do. Accordingly, all single words not appearing on these condensed lists can be assigned a score of 1. All such words are omitted from the scoring sheets, whether their frequency in the normative sample of 400 was one, two, or three.

A copy of the Loyola Language Study test booklet may be found in Appendix II.

CHAPTER IV

DISCUSSION OF THE RESULTS

A. Statistical Procedures

The major statistical tests of the two hypotheses in this study were Fisher "t" tests of the pretest - posttest mean differences for each group; and, "t" and Mann - Whitney U tests of the differences in mean changes between the groups. In addition, Pearson correlation coefficients for test and retest were computed, for each group separately and for both groups combined.

The statistical tests were applied to three different LLS scales, all based on root scores. (The system used for the derivation of root scores was discussed in the previous chapter.) The first, Scale A, represents the scores for the total 80 words. Scale B represents the scores for the 25 most significant words on the test -- the shortened form of the LLS. And, Scale C is composed of the number of individual, or "singleton," responses obtained on the test. Contrary to Scales A and B, where improvement would be reflected by higher scores (more communality of response), improvement on Scale C would be shown by a lower retest score (less individuality of response).

B. Presentation of the Findings

The basic prediction in this study was confirmed. Nursing training does encourage an increased capacity for communality of thought, as reflected by significantly improved scores on the LLS, for both psychiatric and general hospital students.

The second prediction was not confirmed. The psychiatric nursing students failed to show significantly greater improvement in thought communality than the general hospital students. To the contrary, it was the latter that showed the consistently higher trend, with statistical significance being achieved by them on Scale B (the 25 most significant words on the LLS).

Additionally, the short-term test-retest reliability obtained in this study for the total test (Scale A) appears to be the highest reported in the literature for the LLS. A Pearson "r" of .75 was obtained.

C. Analysis of the Results

A general description of the preliminary data is presented graphically in Table III, Appendix III.

An inspection of Table III reveals the general improvement of LLS scores from pretest to posttest. The posttest means are higher for both groups on Scale A, and for one of the groups on Scale B, while on Scale C--the index of individual responses--they are lower, favorably, for both groups. In addition, the posttest standard deviations consistently are reduced, in all cases, for both groups. The latter parallel the general improvement in the mean scores by showing the increased homogeneity of the two groups. The single, clear exception to the pattern of improvement appears in Scale B of the psychiatric nursing students, where the pretest-posttest scores show a slight downward trend. This exception is an important one, and needs explanation; it is unexpected.

The pattern of improvement for both groups is illustrated from a different perspective by the Pearson "r" scattergram (Scale A) that appears in Table IV, Appendix III.

Hypothesis I was tested by Fisher "t" tests of the pretest-posttest mean differences of each group, on each scale. Mean difference scores, reflecting score changes, were computed for each individual test-retest performance, then summed for each group. The test of *t* for the difference between correlated pairs of means was obtained. The results of the *t* tests are indicated in Table V, Appendix III. (The statistical formulae employed in this study may be found in Appendix IV.)

In Table V, the null hypothesis was rejected in all but one instance. The pattern of general LLS improvement following nursing training reached significance for both the psychiatric and the general-hospital students on the total test (Scale A), for the general hospital group on the shortened form of the test (Scale B), and for both groups again on the singleton responses (Scale C). In these five instances, the improvement reached at least an .02 level of significance.

The tendency toward superior improvement by the general hospital group continued to be revealed. This group showed improvements that exceeded those of the psychiatric trainees by averages of 12 points on Scale A, 13 points on Scale B, and 1 point on Scale C. Their superiority is highlighted indirectly also by the higher levels of statistical significance they obtained on every scale. However, the question of whether or not these trends between the groups are significant has not yet been determined. It is to be answered by the testing of Hypothesis II.

Hypothesis II was tested by Fisher "t" and Mann-Whitney U tests of the difference in the mean changes between the two groups under study, for each scale.

The test of t for the difference between uncorrelated means in two samples was computed.

The Mann-Whitney U tests were introduced in order to obtain determinations of the significance of the differences between groups, apart from possible irregularities that may have been present in the distributions of the medium sized samples. In this approach, all of the scores of the two independent groups were ranked, on each scale, from greatest to least. These ranks then were summed for each group, and significances sought. (In applying U, significances are arrived at on the basis of deviations to be expected from null hypothesis values.)

Table VI in Appendix III shows that the differences in mean changes between the groups fell within probability on Scales A and C, but not on Scale B where there was definite superiority of improvement by the general-hospital group. A level of significance of .04 was attained by the latter group, for t.

The tests of U showed close correspondence with those of t, generally substantiating the latter, but not revealing new or greater significances. They do suggest, however, that the type of change found on Scale B probably was not a result of irregularities in the sample distributions.

Hypothesis II thus failed to be confirmed. The psychiatric nursing students failed to show the greater improvement. Contrary to the hypothesis, the trend toward greater improvement appeared consistently in relation to the general-hospital group, one time reaching significance. Further reference to Table III suggests that the significance found on Scale B was due not so much to greater improvement by the general-hospital group as to the psychiatric group's failure to show improvement, which was in clear contrast also to the latter group's own trends toward increase on Scales A and C.

By way of a check on whether there had been any initial superiority of one group over the other at time of pretest, it was decided to make a comparison of the pretest mean scores between the groups, on all the scales. Without this check, any differences found to exist between the groups at times of posttest might be a reflection merely of relative increases in pre-experimental superiority. Fisher "t" tests of difference between uncorrelated means were computed, none of which approached significance. The *t* coming closest to significance occurred on Scale B, with the higher trend favoring the psychiatric group. This *t* of 1.140, however, was far from reaching significance, falling

at the .30 level. There were no significant pretest differences between the groups. The reader is referred to Table VII, Appendix III.

In view of the finding of significant change for the general-hospital group on Scale B, it was decided to provide a check here also by testing the possibility of significant differences existing among the various sub-groups, at either pretest or posttest. Without a pretest check, the same question might be raised toward these sub-groups as was raised previously - that is, whether posttest differences would be due merely to relative increases in initial differences already present in the groups. Without the posttest check, question could be raised as to whether the significantly greater improvement shown by the general-hospital group as a whole was a result of general improvement in all the sub-groups, or improvement characteristic only of a few.

The results of this second check substantiated the validity of the significant gain made by the general-hospital group. The largest pretest difference between any two of the sub-groups was that present between classes M and N, as illustrated in Table VIII in Appendix III. The largest posttest difference between any two sub-groups was that present between classes O and P. Tests of "t" in both instances failed to reveal these largest differences to be significant. The highest level of significance was .20, appearing at pretest. It clearly was not meaningful.

As recognized previously by Braun (1963), "Unfortunately, data on test-retest reliability on the Loyola Language Study are limited."

Stewart reported a four-year test-retest correlation of .68 for the 25-word scale, based on LLS records of forty graduating collegians, initially tested upon entrance. For the females only, it was .62.

Herr was cited by Braun (1963) as reporting two short-term test-retest reliabilities of .67 and .72, over a time interval of three months. Again, these figures pertained only to the 25 most discriminating items on the test (Scale B in this study).

The only test-retest correlation reported for the total test seems to be that of Trainor (1958). He obtained r's of between .49 and .55, over the beginning and end of a college semester.

In the present study, the formula used to obtain the test-retest correlations on the three scales was Pearson's r, computed from the original measurements.

The r's obtained for each group, separately, may be found in Table III, Appendix III. The combined test-retest r's, for both groups together, are presented in Table IX, in the same Appendix.

The correlations obtained in this study are at least consistent with the ones reported above. In the case of the total scale, the present result is noticeably higher than that given by Trainor. The homogeneity of the particular population employed in this study probably was an important influence here. With greater homogeneity, less difference in scores would be expected. Also, consistent with the pattern of significant change between the two groups on Scale B is the relatively lower correlation occurring on Scale B in this study.

By way of conclusion to this chapter, the reader is referred to Appendices V and VI, where the raw scores for the two groups participating in the study are presented. As noted in the review of the literature section, one of the possible impediments to future progress in LLS research may be related to the scarcity of published basic data, with which new research comparisons and interpretations may be made.

CHAPTER V

SUMMARY AND CONCLUSIONS

1. The basic prediction in this study was confirmed. A favorable relationship between nursing training and nursing students' capacity for communality of thought was found to exist. Scores on the Loyola Language Study improved significantly over a ten-week period in a total population of 84 nursing students who were undergoing nursing training experiences, in both psychiatric and general-hospital settings. The average improvement for the total group on the full 80-word test was 32 points, added to an initial mean total score of 532.

2. A second prediction failed to be confirmed. Forty-four psychiatric nursing students failed to show the greatest improvement in LLS thought communality, despite training emphasis on intensive, personal patient-nurse contacts--assumed in this study to be empathetically-oriented. Contrary to the prediction, forty nursing students undergoing general-hospital training experiences showed the consistently higher trends. In one unexpected instance they even surpassed the psychiatric group by a significantly higher degree. The experiences of the general nursing trainees were seen as emphasizing more extensive, varied, and impersonal nurse-patient contacts--assumed in this study to be less empathetically-oriented than the contacts of the psychiatric group.

3. In view of the fact that improvement was found in both of the groups used in the study, one question might be anticipated, pertaining to the validity of the improvement shown by these groups. Inclusion in the study of a second control group that would have been equivalent to the two others, yet that would not have been undergoing nursing training, might have served as a check on the genuineness of the improvement. Interpreting the data from the viewpoint of this question: at most, nursing training encouraged the improvement in the nurses' posttest scores; at least, it did not discourage such improvement, generally. The question would seem to be partially dispelled by the finding--reaching significance--of greater improvement of one of the two groups over the other. A future study might be undertaken, of course, incorporating the suggestion of including a third group for additional control purposes, thereby putting the significance of possible changes to a stronger test.

4. The superiority of the general-hospital group in the principal case involved (Scale B) was suggested by finer analysis to be related less to real above-and-beyond superiority of this group than to failure on the part of the psychiatric students even to maintain their initial, and superior, level of thought communality. This failure was observed despite significant improvements made by the psychiatric students on the two other scales. For example, while the general-hospital group was increasing its

scores on Scale B, by a favorable mean change of 12 points (initial total score = 172), the psychiatric group simultaneously showed a downward trend, with an unfavorable mean change of - 1 point (initial total score = 180).

5. In view of the unexpected reversal occurring in relation to the second prediction, certain explorations might be considered, again with a view toward explanation and the offering of possible leads for continued research in this area.

a. Is the assumption that some type of empathy factor is involved in what the LLS is attempting to measure, through thought communality, merely an artifact? The prediction of greatest improvement for the psychiatric group was based in empathy theory. Too, no previous LLS study has shed light on this matter of improved scores over time, neither in direction nor magnitude. It might be possible that improvement in LLS scores is the natural occurrence, to be expected, over time.

b. Assuming that there may be a relation between the LLS and empathy--still in need of establishment--would the assumption that there is greater need for, or development of, empathy in specifically psychiatric settings a faulty one? While both groups showed significant gains in commonality scores, over-all, it was the general-hospital group that revealed the most consistent and greatest gain. It had been assumed that this group would be less empathically involved in its professional relationships than the psychiatric group.

c. Is it possible that the LLS may be sensitive to two different types of measurement factors? The psychiatric group showed significant improvement on Scales A and C, but a downward trend on Scale B. Might this type of inconsistency be related to characteristics of the subjects--for example, individual differences along a continuum of cognition-affectivity? Or might it be due to the nature of the stimulus words themselves--for example, word groups differing along a continuum of "stimulus fixity" (25-word scale) as opposed to "stimulus freedom" (55 remaining words)?

d. Perhaps psychiatric training serves to inhibit in some way natural or aquirable tendencies toward improved thought communality or, if assumed, empathy? The inconsistency of the psychiatric group's pattern was clear, and unexpected.

e. More specifically, might contacts with psychiatric patients--the majority of whom were schizophrenic--encourage greater deviation trends away from conventional thinking or feeling, particularly in relatively inexperienced professionals? Scale B reportedly is the most stable of the three scales utilized in the present study, and probably the one on which least negative change might be expected to occur. Scale B, it will be recalled, also is the scale on which schizophrenics as a group have been revealed to do so poorly.

6. The author's own analysis of the unexpected outcome for Hypothesis II--that which predicted greater significant change for the psychiatric group--will continue to be presented within the LLS-empathy framework, consistent with the initial orientation of the project.

Reference was made in the empathy literature to recent attention being given to the differentiating, defining, and testing of at least two diverse types of empathy. Among the most popular of the differentiations was that which distinguished mass empathy from individual empathy.

This distinction was supported in the literature by empirical findings of minimal correlation between success in one type of empathy and success in the other.

Various tests were discussed in terms of their focus in measuring one or the other of these two types of empathy, but not both. Dymond's empathy measurements, for example, are directed toward determining a person's capacity for individual, one-to-one empathizing. Kerr's test attempts to determine success in mass, generalized empathizing.

The test of empathy most similar to the Loyola Language Study was that of Norman and Ainsworth, a mass empathy type of measure.

The import of this background summary now follows, based in a post hoc recognition of a possible inconsistency in the research design. The basic implication underlying this study was to determine whether nurses' training experiences might provide a basis for assuming a relation between the LLS and empathy (Stewart, Dinello). The basis for predicting

higher thought commonality improvement by the psychiatric nursing group was made in terms of the greater need for empathy assumed to be required in relationships with psychiatric patients. The unexpected reversal in the outcome of Hypothesis II may have been influenced by the inconsistency involved in predicting greatest improvement in LLS scores by a people-contact group undergoing more intensive and individual inter-personal relationships, while employing a measuring instrument whose closest parallel in empathy literature purports to measure the more extensive, generalized, and mass types of empathic capacity.

7. The short-term test-retest correlation obtained in this study on the total form of the LLS, over a ten-week period, appears to be the highest reported in the literature. A Pearson r of .75 was obtained, (N=84).

8. One possible impediment to future progress in LLS research can be related to the scarcity of published data on the LLS in basic statistical areas.

9. Some refocusing of approach to the Loyola Language Study by investigating possible emotional influences underlying successful performance on it, may merit further exploration. This would seem true particularly in view of the similarities found between the LLS and current

tests of generalized or predictive empathy purporting to measure this emotionally-oriented concept.

10. One such refocusing attempt might be to correlate success on the Loyola Language Study with success on a mass empathy test such as that developed by Norman and Ainsworth.

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APPENDIX I

CLASSIFICATION OF STUDIES DEALING WITH EMPATHY

Theoretical

Adler (1933)
Allport (1937)
Bender & Hastorf (1953)
Brofenbrenner, et. al. (1958)
Cottrell (1951)
Cronbach (1955)
Dymond (1948, '50, '52)
Fiedler (1950)
Gage (1953)
Hastorf & Bender (1952)
Hastorf, Bender, Weintraub (1955)
Lipps (1907, '09)
Luchins (1957)
Murray (1938)
Pokorny (1959)
Rogers (1958)
Speroff (1953, '55)
Stewart (1954, '55)
Worringer (1953)

Personality Traits

Baker (1955)
Bell (1954
Bronfenbrenner, et. al. (1958)
Daane (1959)
Dymond (1950, '52)
Halpern (1957)
Hayden (1955)
Jackson (1955)
Lundy (1957)
Patterson (1962)
Roberts & Johnson (1957)

Interpersonal Perception Prediction Sensitivity

Bender & Hastorf (1950)
Cowden (1955)
Dymond (1950, '52)
Gage (1953)
Halpern (1955, '57)
Halpern & Lesser (1960)
Lifton (1958)
Lundy (1957)
Rabin (1959)
Speroff (1953, '55)
Strunk & Reed (1960)

Situational Tests

Arbuckle & Wicas (1957)
Austin (1958)
Weinstein & McCandless (1959)

Paper & Pencil Tests

Hawkes & Egbert (1954)
Kerr (1954)

Projective Tests

Dymond (1950)

Identification, Similarity, Projection

Bender & Hastorf (1950)
Cowden (1955)
Gage (1953)
Halpern (1957)
Lifton (1958)
Lundy (1957)
Rabin (1959)
Speroff (1953, '55)
Spilka (1959)

Expressive Movements

Frijda (1958)
Kern (1954)
Lair (1958)

Achievement

Alpert (1955)
Chambers (1957)

Reviews

Bronfenbrenner (1958)
Gage (1953)
Luchins (1957)
Parker (1955)
Taft (1955)

Adapted from Buchheimer (1963)

CLASSIFICATION OF STUDIES DEALING WITH EMPATHY

APPENDIX II

LOYOLA LANGUAGE STUDY

REVISED

LOYOLA LANGUAGE STUDY

Instructions

WHEN PEOPLE see or hear a word, they often think of another word. If you say the word *stem,* most people would think of *flower.* Some, but not the greatest number, might think of *pipe, grass, stop,* and so forth.

This study wants to find out what word you think the ***greatest number of people*** would be most likely to think of when they see or hear each of the words on the next two pages.

Please write next to each of the words the ***one word*** which you think the ***greatest number of people*** would be most likely to think of when they see or hear the word in the list. Take as much time as you need to think about the word which seems to you to "go along" with each printed word. Then choose the ***one word*** which you think the ***greatest number of people*** would be most likely to think of when they see or hear the given word. Write the ***one word*** which you choose beside the printed word. Do not skip any word.

Remember, you are not asked to write down just any word that comes to your mind. You should write down the ***one word*** which you think the ***greatest number of people*** would be most likely to think of.

Important: please fill out the information blank on page 4.

Beside each of the words printed below write the ***one word*** which you think the ***greatest number of people*** would be most likely to think of when they see or hear that word.

soldier

hungry

butterfly

long

head

anger

afraid

fruit

dark

red

loud

bath

eating

joy

rough

heavy

high

white

command

sour

king

deep

sleep

black

hammer

table

thirsty

quiet

hard

blue

sweet

stomach

working

comfort

soft

short

beautiful

cold

whiskey

yellow

window

scissors

foot

doctor

wish

house

justice

river

sickness

mountain

stove

girl

salt

man

cheese

baby

moon

spider

bread

whistle

carpet

needle

hand

thief

dream

trouble

religion

street

health

ocean

bed

child

tobacco

woman

cabbage

citizen

earth

lion

butter

music

Turn to page 4

The following information is essential for research purposes. Without it, no good can come from the trouble you have taken to fill out the two previous pages.

RESIDENCE *(city and state)*.....

BIRTHPLACE *(city and state)*.....

MONTH AND YEAR OF BIRTH.....

SEX *(male or female)*.....

Highest year of school completed (circle one):

				HIGH SCHOOL				COLLEGE						
5	6	7	8	9	10	11	12	13	14	15	16	17	18	.....

From what countries did your parents' people come?

Father's people.....

Mother's people.....

YOUR OCCUPATION.....

If you are a student or housewife, what is your father's or husband's occupation?.....

If you wish, give your name and address

NAME.....

STREET.....

CITY.....

Return to:

LOYOLA LANGUAGE STUDY

820 North Michigan Avenue

Chicago 11, Illinois

APPENDIX III

TABULAR DATA

TABLE III

Mean root scores, standard deviations, and 10-week pretest-posttest correlations for psychiatric and general hospital nursing students, on three different LLS scales.

	LLS Scales					
	A (80 words)		B (25 words)		C (singletons)	
	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest
Scores	Psychiatric Nursing Students					
M	542.07	568.32	180.23	179.12	12.27	10.11
SD	87.0	69.9	30.7	26.5	8.9	7.2
r		.792		.680		.777
	General Hospital Nursing Students					
M	522.92	561.50	171.82	184.00	13.80	10.35
SD	88.2	73.7	36.0	26.1	8.0	6.6
r		.703		.552		.635

TABLE IV

Pearson "r" scattergram of pretest and posttest root scores on total 80-word scale (A), for psychiatric and general hospital nursing students

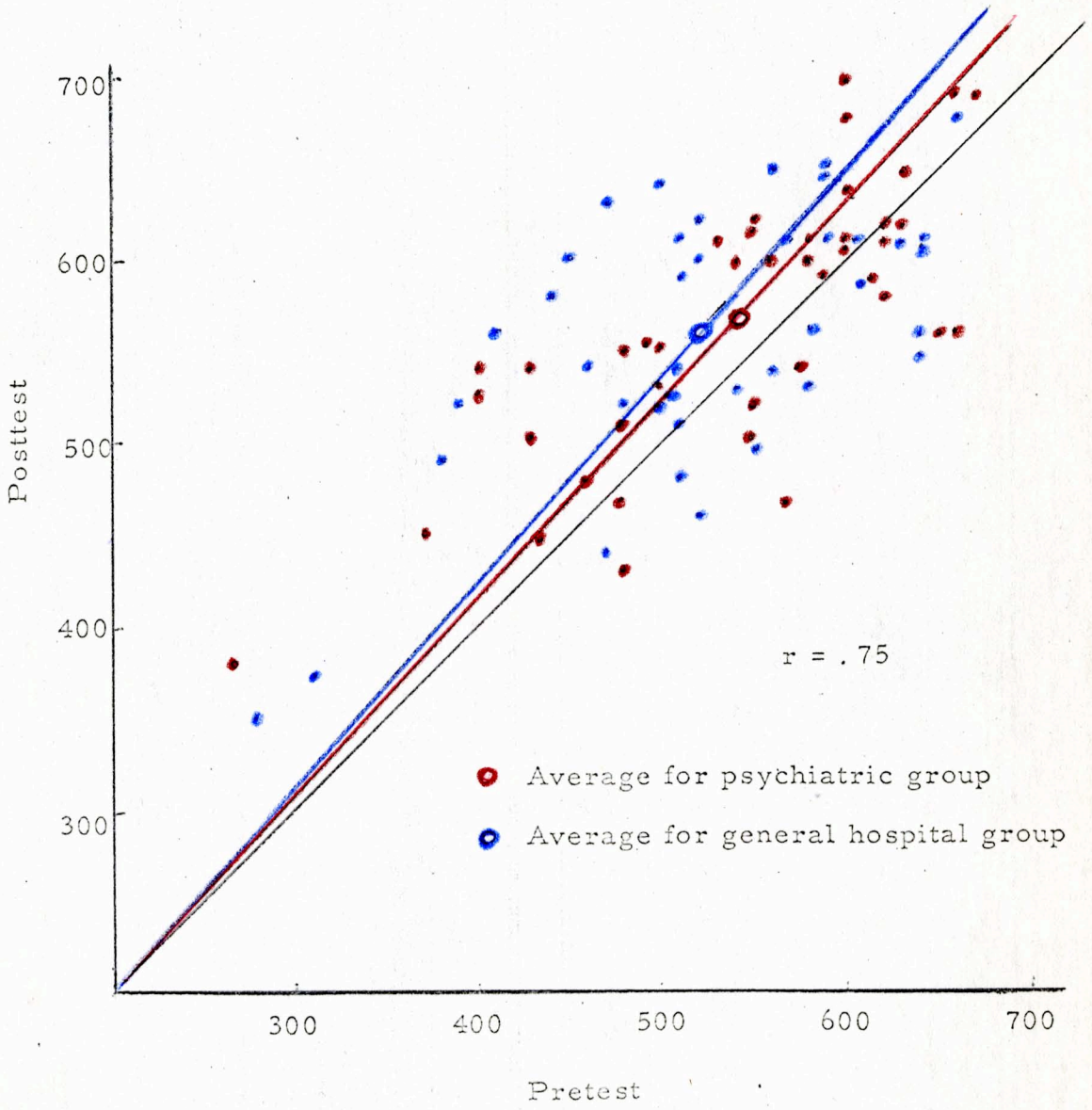

TABLE V

Mean group changes, pretest to posttest, with t's* and corresponding level of significances, on three LLS scales.

	LLS Scales		
	A (80 words)	B (25 words)	C (singletons)
	Psychiatric Nursing Students		
Mean change	26.25	-1.11**	-2.16
t	3.234	.314	2.510
P	.01	.80	.02
	General-Hospital Nursing Students		
Mean change	38.58	12.18	-3.45
t	3.774	2.480	3.382
P	.001	.02	.01

*two-tail test
**change unfavorable

TABLE VI

Differences between groups in mean pretest-posttest improvements, favoring general-hospital students, on three LLS scales.

	LLS Scales		
	A (80 words)	B (25 words)	C (singletons)
Diff. in M change	12.33	13.29	-1.29
t	.952	2.224	.974
sig	.32	.04	.32
U	.699	1.876	.864
P	.24	.03	.19

TABLE VII

Group mean differences at pretest, with t's*

	LLS Scales		
	A (80 words)	B (25 words)	C (singletons)
Mean diff.	19.14	8.40	1.53
t	.989	1.140	.810
P	not sig	not sig	not sig

*two-tail test

TABLE VIII

Scale B Mean scores for general-hospital nursing sub-groups, pretest and posttest.

Sub-group	Number ofs's	Pretest	Posttest
L	14	166.4	185.1
M	5	189.8	189.4
N	6	153.7	173.2
O	9	177.8	180.4
P	6	178.7	193.0

TABLE IX

Pearson r's, pretest to posttest

$L_L S$	Scale A	Scale B	Scale C
r	.75	.59	.72

APPENDIX IV

STATISTICAL FORMULAE

$$t = \frac{M_d}{\sqrt{\frac{\Sigma x^2_d}{N(N-1)}}}$$

df = N - 1

(Guilford, 1956, p. 220)

$$t = \frac{M_1 - M_2}{\sqrt{\frac{\Sigma x^2_1 + x^2_2}{N_1 + N_2 - 2} \cdot \frac{N_1 + N_2}{N_1 \cdot N_2}}}$$

df = $N_1 + N_2 - 2$

(Guilford, 1956, p. 220.)

The formula used for deriving U was:

$$U_1 = N_1 N_2 + \frac{N_1 (N_1 + 1)}{2} - T_1$$

(McNemar, 1962, p. 377.)

The formula used for deriving the significance of U was:

$$\frac{x}{\sigma} = \frac{U_1 - N_1 N_2 / 2}{\sqrt{\frac{N_1 N_2 (N_1 + N_2 + 1)}{12}}}$$

(McNemar, 1962, p. 377.)

(Guilford, 1956, p. 140.)

$$r_{xy} = \frac{N\Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{(N\Sigma X^2 - (\Sigma X)^2)(N\Sigma Y^2 - (\Sigma Y)^2)}}$$

APPENDIX V

RAW SCORES FOR PSYCHIATRIC NURSING STUDENTS, PRETEST AND POSTTEST, ON THREE LLS SCALES

Subjects	A (80 words)		B (25 words)		C (singletons)	
	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest
1	609	589	193	163	7	6
2	573	540	190	156	7	12
3	400	525	180	188	28	11
4	435	485	148	160	16	22
5	492	551	147	189	13	10
6	568	569	200	212	14	14
7	548	617	182	196	12	6
8	550	520	129	168	8	15
9	501	531	184	167	17	14
10	620	576	204	202	3	8
11	558	602	183	186	10	5
12	657	694	199	212	8	2
13	603	677	198	221	9	2
14	619	619	198	188	7	8
15	478	548	201	182	14	10
16	669	687	213	205	3	3
17	456	476	168	148	18	14
18	621	607	214	194	5	3
19	396	543	133	144	29	14
20	554	616	204	209	11	5
21	626	621	199	180	3	4
22	498	548	185	169	16	11
23	598	587	218	187	11	15
24	626	650	203	201	3	2
25	646	563	196	175	4	12
26	546	496	207	151	11	15
27	476	510	182	174	18	12
28	431	502	141	157	13	13
29	371	454	127	117	33	18
30	599	703	200	205	7	4
31	585	589	196	195	9	7
32	595	606	230	188	8	4
33	578	596	179	175	4	2
34	660	561	205	167	2	4
35	483	467	146	136	20	22
36	531	607	173	207	16	8
37	606	591	191	202	9	9
38	477	427	163	147	19	27
39	265	367	71	91	47	37
40	599	607	203	210	4	4
41	543	600	147	191	7	5
42	434	537	141	188	23	16
43	595	637	199	199	7	4
N = 44	576	608	160	179	7	6

APPENDIX VI

RAW SCORES FOR GENERAL HOSPITAL NURSING STUDENTS, PRE-TEST AND POSTTEST, ON THREE L L S SCALES

Subjects	A (80 words)		B (25 words)		C (singletons)	
	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest
1	542	533	160	154	10	9
2	498	639	178	225	10	4
3	497	521	152	181	15	10
4	592	609	170	280	13	6
5	281	353	79	129	43	30
6	477	522	140	128	13	14
7	644	648	227	204	4	6
8	597	639	216	209	7	4
9	408	555	134	201	22	8
10	637	611	210	214	9	6
11	521	464	176	173	19	20
12	451	598	165	190	13	6
13	509	539	164	177	15	14
14	522	620	159	207	14	5
15	577	533	200	158	9	10
16	628	608	203	190	5	4
17	658	682	206	233	4	1
18	513	585	219	193	17	13
19	385	522	121	173	30	9
20	508	610	176	189	13	3
21	594	645	213	201	10	3
22	307	366	83	130	29	27
23	505	484	153	176	17	15
24	512	508	157	157	12	7
25	381	488	140	186	26	14
26	553	504	155	141	8	19
27	536	598	146	199	16	14
28	496	522	180	182	15	12
29	572	606	191	189	6	7
30	459	535	147	182	13	12
31	644	611	231	207	3	8
32	602	605	198	208	5	8
33	582	556	183	175	13	11
34	470	435	169	141	19	27
35	559	545	194	193	9	11
36	436	575	102	199	20	6
37	465	628	170	180	21	8
38	643	561	201	158	4	10
39	565	647	195	214	9	5
N = 40	591	650	210	214	12	8

APPROVAL SHEET

The thesis submitted by Charles Raymond Potkay has been read and approved by three members of the Department of Psychology.

The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated, and that the thesis is now given final approval with reference to content, form, and mechanical accuracy.

The thesis is therefore accepted in partial fulfillment of the requirements for the Degree of Master of Arts.

May 27, 1965
Date

Charles L. Doyle, S.J.
Signature of Adviser