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Shifts in Self-Concept and Locus of Control in College Students as a Function of Volunteering with Emotionally Disturbed Children

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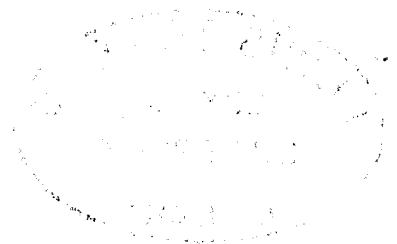
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SHIFTS IN SELF-CONCEPT AND LOCUS OF CONTROL IN
COLLEGE STUDENTS AS A FUNCTION OF VOLUNTEERING
WITH EMOTIONALLY DISTURBED CHILDREN

by
Patrick McKian

A Dissertation Submitted to the Faculty of the Graduate
School of Loyola University of Chicago in Partial
Fulfillment of the Requirements for the Degree
of Doctor of Philosophy

June
1977



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VITA

Patrick Joseph McKian was born December 6, 1945 in Detroit, Michigan. He is the son of Francis McKian and Anna (McGarry) McKian.

His elementary education was obtained in the Catholic school system of Detroit. His secondary education took place at St. Joseph's preparatory seminary in Edgerton, Wisconsin, where he was graduated in June, 1963.

In September, 1964, he entered the first of two years of college work at St. Joseph's college seminary from which he graduated in June, 1965. In August, 1965 he entered the Redemptorist novitiate and professed vows in August, 1966. His college education continued at Immaculate Conception seminary in Oconomowoc, Wisconsin where he spent one year. His final year was completed at the University of Detroit where he was graduated in December, 1968.

The author entered the graduate program in Clinical Psychology at Loyola University of Chicago in September, 1969. He spent two 500 hour clerkships at Downey V.A. Hospital between October, 1969 and October, 1971. In November, 1971 he began the first of two 1200 hour clinical experiences which combined served as his internship. These were done between November, 1971 and October, 1973 at Westside V.A. Hospital.

In September, 1973, the author joined the trainee staff of the Loyola Child Guidance Center and remained there until January, 1975. At that time he began a job as a psychologist on the staff of Beacon Therapeutic School. He is presently working there as a psychologist in the adolescent center and is an assistant director of the school.

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INTRODUCTION AND REVIEW OF THE RELATED LITERATURE

The purpose of this study is to further investigate change in college students as a result of volunteering in a mental health setting. Gruver (1971) reviewed the research on college students as therapeutic agents and concluded that college student volunteer programs in mental health serve a variety of functions. These include providing meaningful educational experiences for college students, introducing communication between universities and mental health facilities, alleviating the manpower squeeze in mental health, enhancing student development programs, and, of particular importance for the present study, providing students with an opportunity to effect real and meaningful changes in their environment.

Gruver reported that students who worked in psychological clinics or other mental health settings manifested significantly more positive changes in self-acceptance (Holtzberg, Gewirtz, & Ebner, 1964), and also greater self-understanding (Reinherz, 1962; Stollak, 1969; Umbarger, Dalsimer, Morrison, & Breggin, 1962). Scheibe (1965) also concluded that both self-confidence and enhanced identity

formation are further personality changes effected by working in various mental health settings.

The Effects of Using College Students as Volunteers

Greenblatt and Kantor (1962) posited two hypotheses why college students seem to be especially desirable as mental health workers. First, they manifest less resistance to and more motivation for face-to-face contact with patients; and second, they appear to have a strong sense of personal commitment to their work.

Mitchell (1966) concurred with these hypotheses and further posited that in working with children "college students seem to have a particular talent for finding the child in his own world" [p. 311]. This seems to be partly a function of the smaller age difference between children and college students. Certainly, children might expect more empathy from a college student who, like himself, may be struggling with his identity, and who, often may also see the locus of control outside himself. Furthermore, because students cannot rely on professional training or the professional facade, they are forced to use a naive, common sense approach to their encounter with children. As a result they seem to relate in a more genuine and personal manner.

Reiff and Riessman (1965) postulated that nonprofessionals have greater flexibility in terms of appropriate

and accepted behaviors that they can engage in with their clients. They see this flexibility as a special asset, especially in terms of the client identifying with and feeling closer to the nonprofessional helper.

Reinherz (1962) had observed that some of the successes that college students have in working with emotionally disturbed children may be due to their having recently solved or left unsolved basic issues of maturation in their own lives. She noted that in late adolescence identity problems, such as sex role and career choice are important developmental issues, and their successful resolution makes a difference between a productive and nonproductive adult role. It was often observed that as the student aided the child in working out the problems of self-maturity, the student, too, appeared to be gaining a definitive solution for himself.

A final advantage of using college students as therapeutic agents and a further reason for their apparent success particularly in settings outside a hospital is that there may be less stigma involved for the client. For example, whereas a parent may be concerned about the stigma attached to sending his child to a psychologist, he may be less inhibited about his child seeing a college student, given, of course, that the therapeutic effect is similar.

In summary, it appears that college students may

have an advantage in working with some populations, simply because they do not have prior training or professional status.

The Effects of Volunteering on College Students

Personality theorists who are particularly interested in college student development (Madison, 1969; Sanford, 1962) suggest that college students have a significant potential for change and that working in a community mental health facility may serve as an instrument for personality development. It seems that college students often prefer to work with children for a number of reasons. First, improvement in children seems to be more easily observable even by naive volunteers. Also, students discover that in just a short time the children begin to respond positively to them. Unbarger et al. (1962) reported that students working with children felt less anxious about their own identity and more successful in their work than they did with older patients. Students who worked with children were apparently more effective because they could act in a more relaxed and normal person-to-person manner. Also, socially approved roles of big brother and big sister worked extremely well with the children while no such role was readily available with adult patients.

Gruver (1971) reviewed many studies in which college

students were used in various therapeutic capacities in both inpatient and outpatient settings, and with both adult and child clients. He concluded that most of the studies conducted were so methodologically inadequate that it is impossible to draw firm conclusions about the relative effectiveness of college students as therapeutic agents. For example, less than 25% of the studies reviewed had a control group of untreated clients. Also, only 25% of the studies used pre- and posttesting and only 4 of the 19 used objective measures (viz., Cowen, 1968; Cowen, Zax, & Laird, 1966; Poser, 1966; Zunker & Brown, 1966). Other problems cited are the use of diverse populations and little consistency as to the kind and amount of training. For example, college students in some studies were given no training (viz., Ralph, 1968; Spoerl, 1968), while others were given very specific training (viz., Linden & Stollak, 1969; Stollak, 1969; Zunker & Brown, 1966). Furthermore, there was a great deal of difference in motivation among students. Some received money (viz., Goodman, 1969; Poser, 1966; Scheibe, 1965); some received college credit (viz., Umbarger et al., 1962); and others received no extrinsic incentive or reward (viz., Levine, 1966; Spoerl, 1968). There were also differences in the duration and frequency of students working, ranging from one day a week (viz., Spoerl, 1968) to full time (viz., Lawton & Lipton, 1963; Poser, 1966).

Although there do not appear to be enough data from well controlled studies to warrant conclusions concerning the relative efficacy of college students as therapeutic agents to patients, there is sufficient evidence to conclude that the therapeutic relationship has a definite, positive effect upon the college student volunteer (Cowen et al., 1966; Goodman, 1967; Hersch, Kulik, & Scheibe, 1969; Holzberg et al., 1964; Holzberg & Knapp, 1965; Hunt, 1969; Kantor, 1959; Levine, 1966; Linden & Stollak, 1969; Reinherz, 1962; Scheibe, 1965; Stollak, 1969; Umbarger et al., 1962; Walker, Wolpin, & Fellows, 1967). The studies supporting these conclusions are much more methodologically complete than those describing the effect of the student therapist on patients. For instance, more than 60% of these studies used control groups of students who did not participate in mental health programs. Furthermore, over 90% of the studies describing the effects upon students as a result of working in mental health settings used pre- and posttests which were relatively objective. Several different methods have been used to measure the positive effects of the volunteer experience. Some studies have used subjective reports (viz., Goodman, 1967; Greenblatt & Kantor, 1962; Holtzberg & Gewirtz, 1963; Holtzberg et al., 1964; Kantor, 1959; Umbarger et al., 1962), external measures, such as volunteer functioning in school (viz., Good-

man, 1967; Holtzberg & Knapp, 1965; Hunt, 1969), Gough's Adjective Checklist (viz., Hersch et al., 1969; Scheibe, 1965), and other objective tests (e.g., Rotter's Internal-External Locus of Control Scale).

Some of the personality changes noted have been positive changes in self-acceptance and moral judgments of a sexual and aggressive nature (Holtzberg, Gewirtz, & Ebner, 1964), greater self-understanding (Stollak, 1969; Umbarger et al., 1962), and increased self-confidence (Scheibe, 1965).

Attempts to conceptualize and explain these personality changes have been undertaken by Holtzberg, Knapp, and Turner (1966). They presented four formulations. The first views the personality changes as a function of a heightened sense of self-competence while a second hypothesis suggests that changes occur as a function of an enlarged and more flexible system of personality constructs. A third formulation suggests the clarification of the students' self-concepts and identities as the basis for personality change. Their fourth and final formulation suggests personality changes as a result of emotional catharsis. One of the interpretations of how catharsis takes place is that "certain emotions may be extinguished by saturation, just as certain persistent habits may be overcome through excessive practice" (p. 404).

Other hypotheses have been posited. Reiff and Riessman (1965) suggested that added responsibility for a meaningful job, as well as the satisfaction gained from acquiring new skills, may account for positive personality changes in some nonprofessionals. Also, there may be an increase in status and prestige as a result of working with professionals which is incorporated into volunteers' self-concept. In a similar manner, nonprofessionals may make positive personality changes as a result of identifying with and emulating those qualities and personality characteristics they admire in the professionals with whom they work. Furthermore, one may gain added stability and security by reasoning that one must be in good shape himself in order to be able to help others. A final hypothesis is that one's self concept is enhanced by the knowledge that he can influence the life of others. The fact that he can effect positive change in others may be particularly important to the college student who often feels depersonalized (like a computer card) in the university system. These myriad hypotheses are not mutually exclusive, and the reality of the situation probably favors various combinations of these for different individuals at different times.

So far I have briefly examined the special assets that college students bring to volunteer situations and the potential changes in college student volunteers as a result

of their volunteer experience. But what about college students who do not volunteer? Are they basically different from students who do volunteer, and, if so, in what ways?

Volunteers Versus Nonvolunteers

There are many studies comparing volunteers and nonvolunteers in widely different situations including willingness to reveal sex attitudes (Kinsey, Pomeroy, & Martin, 1948; Martin & Marcuse, 1958; Maslow, 1940; Maslow & Sakoda, 1952), drug research (Lasagne & Felsinger, 1954; Overall, Goldstein, & Brauzer, 1971; Richards, 1960), dangerous tasks (Bair & Gallagher, 1960; Howe, 1960; McLaughlin & Harrison, 1973), group discussion (Efrau & Boylin, 1967; Frye & Adams, 1959), sensory deprivation (Dohrenwald, Feldstein, Ploskey, & Schmeidler, 1967; Francis & Diespecker, 1973; Myers, 1964; Schultz, 1967), hypnosis (Levitt, Lubin, & Zuckerman, 1959; Martin & Marcuse, 1958), sensitivity training (Guinan & Foulds, 1970; Sheridan & Shack, 1970), and mental health work (Fischer, 1971; Hersch, Kulik, & Scheibe, 1969; Holtzberg, Knapp, & Turner, 1967; Knapp & Holtzberg, 1964; Tapp & Spanier, 1973).

In all but four of these studies (viz., Francis & Diespecker, 1973; Frye & Adams, 1959; Howe, 1960; Levitt et al., 1959) volunteers differed from nonvolunteers in psy-

chological makeup, but the differences found seem to be specific to the situations in which they were volunteering. Some researchers have found volunteers to be psychologically normal, healthy, and sounder than nonvolunteers (Bair & Gallagher, 1960; Hersch et al., 1969; Knapp & Holzberg, 1964; MacDonald, 1972; Martin, 1972; Myers, 1964; Raymond & King, 1973; Richards, 1960; Schultz, 1967; Sheridan & Shack, 1970). Others have found volunteers not as well-adjusted as those who did not volunteer (Corotto, 1963a, 1963b; Guinan & Foulds, 1970; Lasagne & Felsinger, 1954; McLaughlin & Harrison, 1973; Overall et al., 1971; Riggs & Kaess, 1955; Rosen, 1951). Rosenthal and Rosnow (1969) postulated that in survey type research volunteers tend to be better adjusted than nonvolunteers, but in medical research volunteers tend to be less well adjusted than nonvolunteers.

Results of these studies are difficult to compare because different studies used different tests and methods to contrast volunteers and nonvolunteers. These included the Minnesota Multiphasic Personality Inventory, the California Personality Inventory, the Edwards' Personal Preference Survey, the Personal Orientation Inventory, and the Thematic Apperception Test to mention a few.

Hersch et al. (1969) published a detailed study of personal characteristics of college students in the Service

Corps Program in Connecticut. They lived for eight weeks in a state mental hospital, worked with chronic patients, and received \$200 for the two month period. One hundred fifty-one of these student volunteers were given a battery of tests and questionnaires including the California Psychological Inventory, Gough Adjective Check List, the Strong Vocational Interest Blank, Rotter Internal-External Small Scale, Marlowe-Crowne Social Desirability Scale, and a biographical questionnaire. The striking personal characteristics of the college student volunteers were maturity and control, drive for independent achievement, and sensitivity to distressed individuals. On the Strong, their interests were similar to those in professions emphasizing social service. Autobiographical data further indicated that these subjects were highly service oriented and highly dedicated to mental health service. The authors concluded that "data reported here suggest that participation in volunteer work is not motivated by over concern with personal problems but rather is partly attributable to a controlled drive for independent achievement and sensitivity to human problems" (p. 34). There was no control group for this study leaving open to question the possibility that beneficial effects of participation of students in mental health settings may be attributable to selection rather than participation.

Knapp and Holtzberg (1964) and Holtzberg et al.

(1967) found differences between students who volunteer in mental health situations and those who do not. They compared a group of 85 college students volunteering for service as companions to chronically ill mental health patients with a group of 85 control students on a number of psychological tests administered during the students' freshman year. The student volunteers were not greatly different from the nonvolunteers in any significant clinical respect, but were shown to be slightly more religious, more morally concerned, more compassionate, and more introverted than the nonvolunteers on variables such as their major area of study, frequency of disciplinary action (less), and fraternity affiliations (more).

In another study, Tapp and Spanier (1973) found 26 volunteer phone counselors to be more altruistic, more self-actualized, and have greater openness on the Tennessee Self Concept Scale, the Personal Orientation Inventory and a Self-Disclosure Questionnaire than 34 nonvolunteer undergraduates.

Prior to a study by Kerschner (1974) there was no research examining college student volunteers who work with emotionally disturbed children. Kerschner investigated differences in social perception skills and learning motivation orientation between 22 college student volunteers at

the Loyola University Day School for emotionally disturbed children and 20 nonvolunteers matched with the volunteer group for sex, age, and major in school. It was hypothesized that college students, because they are in a transitional life phase, would be positively affected by their experience in a volunteer situation calling for demanding interpersonal interaction and resulting in an increase in social skills. It was found that while initially the volunteers were no different than the nonvolunteers on the social intelligence measures, the volunteers significantly increased in some aspects of social intelligence after volunteering, and these increases became larger with time. Furthermore, motivational patterns as measured by the Epistemic Orientation Inventory showed that volunteers possessed a greater degree of curiosity about themselves and were oriented to know more about how they operate in new circumstances than did the nonvolunteer subjects.

These studies would appear to suggest that mental health volunteers differ from nonvolunteers. However, previous studies also indicate that the direction and kind of differences seem to depend on the measures used and the different situations in which the subjects are involved.

The present study attempted to further study personality characteristics of college student volunteers who work with emotionally disturbed children. The setting was

the same as that used in Kerschner's study (1974), i.e., Loyola University Guidance Center Day School. The author was primarily looking at the personality variables of self-concept as measured by the Tennessee Self-Concept Scale (Fitts, 1965) and the Personal Orientation Inventory (Shostrom, 1966); locus of control as measured by Rotter's Internal-External Locus of Control Scale (Rotter, 1966) and the Northwestern Personality Inventory (Youkilis, 1974); and learning motivation orientation as measured by the Epistemic Orientation Inventory (Shack, 1968).

The design for the present study was a 2x2x3 Repeated Measures Analysis of Variance (McCall, 1975). Four groups were studied and compared on the personality measures mentioned above.

The experimental group was composed of volunteers and divided into two experimental conditions. Experimental Condition I included college students who were both volunteers and also engaged in a 15 week, 3 hour human skills training group. Experimental Condition II included subjects who were volunteers but not involved in a skills training group.

The control group was composed of both students who signed up to volunteer and were not selected as volunteers and students who had preregistered for a human skills training course. The control group was also divided into two

conditions. Control Condition I included students who were not volunteers but were engaged in a skills training group. Control Condition II included students who were neither volunteers nor members of a skills training group.

The Volunteer Setting for the Present Study

The Loyola University Day School was founded in March, 1970 and serves up to 30 severely disturbed children ages 3 to 10. All children served by the Day School must be legally excluded from the public school system due to lack of appropriate special programs, and are therefore eligible for tuition and transportation assistance. The Day School operated 6 hours a day, 5 days a week, 10-1/2 months per year. There are 5 rooms in the school ranging from a room of nonverbal, severely regressed children to the highest room, comparable to a kindergarten or first grade class.

The school is directed by Loyola University clinical psychologists and has one full time special education teacher. The school is staffed by graduate student trainees in clinical psychology who devote 10 or more hours per week to a given room and act as coordinators of these rooms. Usually there are three coordinators assigned per room so that operating under a 30 hour school week, a coordinator is in the room at all times. The remaining staff consists

of volunteers, mostly college undergraduates, who spend their time working directly with the children.

These volunteers are recruited primarily through announcements at Loyola and nearby colleges or by word-of-mouth. Volunteers undergo an extensive orientation program of several training sessions and are exposed to all five classrooms. Volunteers are usually placed in the classroom of their choice, and are requested to work a minimum of 6 hours per week on a consistent time schedule if possible.

By design, volunteers are given a great deal of autonomy and responsibility with the children. There is usually one graduate student coordinator present to supervise and/or consult with the volunteer as well as function in the role of teacher-therapist. Each volunteer has major responsibility for one child or a group of children and this may vary at different times during the day. Volunteers must be alert to signs of distraction, withdrawal, acting out, and possible tantrum behavior. They must be able to respond to and anticipate all types of behavior, while responding differentially to each child depending on his/her needs and problems. Since volunteers work very closely with the children, they also serve a consultant role to other teachers when a new problem is encountered with a given child with whom they have worked closely.

Volunteer meetings for each room are scheduled at least once a week for discussion of lesson plans, teaching approaches or techniques, and behavioral management of different children. The atmosphere is one of sharing problems, feelings, and ideas, and all participants are encouraged to express their opinions, criticism, and any experiences they find either troublesome or rewarding. All these behaviors are encouraged and modelled by the senior staff in the hope of helping the volunteers be more open about their feelings and ideas. It is hoped that this provides an atmosphere where the volunteer learns to be spontaneous, take responsibility, make mistakes without fear of criticism, and share ideas and feelings.

Over the first few semesters of the program, the professional staff noticed that volunteering seemed to help individual students work through different developmental difficulties of their own. It was this observation that prompted staff members to encourage some of their own clients to volunteer in the Day School as an adjunct to treatment. The results were very gratifying and in some cases led to volunteering as the prime mode of therapy. These observations pointed to the possible therapeutic merits of volunteering which the present study investigated further.

Definition of Concepts and Scales Used to Measure These Concepts

Self-Concept

Self-concept has been variously defined, resulting in lack of precision in defining the construct. Bruck and Bodwin (1962) operationally defined self-concept as consisting of these elements: (a) self-confidence, (b) freedom to express appropriate feelings, (c) liking for one's self, (d) satisfaction with one's attainments, and (e) feeling of personal appreciation by others.

Brookover, Thomas, and Patterson (1964) reported that "the general theory states that self-concept is developed through interaction with significant others which in turn influences one's behavior" (p. 272). They found support for this in their study using a sample of 1,050 seventh grade students (513 males and 537 females) in an urban school system. They discovered that the individual's self-concept of ability was significantly correlated with the images that he perceives significant others to have of his ability. The researchers also found statistically significant support for their hypothesis that self-concepts of ability for specific subjects was a better predictor of achievement than a general self-concept.

Davidson and Lang (1960) studied 89 boys and 114 girls attending the fourth, fifth, and sixth grades of a

New York public school, hypothesizing that an individual's perception of a significant other's perception of him is related to the individual child's self-concept or self-perception and to school achievement and behavior. The authors devised especially for this study an adjective checklist for which they report high reliability coefficients and measures of empirical and concurrent validity. Their hypotheses were supported by the significant positive correlations between self-concept and academic achievement. In addition, they found that girls generally perceived their teachers' feelings as being more favorable than boys.

Others have studied the relationship between several variables and self-concept: achievement values of children (Ringness, 1970); reaction of others (Haas & Maehr, 1965); socioeconomic class (Klausner, 1953); curvilinear developmental patterns (Piers & Harris, 1964); segregated schools (Caplin, 1969); anxiety (Swinm & Hunter, 1964); and achievement motivation (Bower, Boyer, & Scheirer, 1970).

Critics of the self-concept methodology (Crowne & Stephens, 1961; Wylie, 1961) invariably refer not only to the lack of equivalence of measures but also to the lack of standardization and validation of the instruments. This was especially so in the early 1960s and such researchers as Lowe (1961) and Piers and Harris (1964) addressed themselves to these issues.

The most popular type of operational definition has assumed that the self-concept can be defined in terms of the attitudes toward the self, as determined either by an individual's self-references in psychotherapy or by asking him to mark certain self-regard attitudes on a rating scale.

In light of the literature review, the instruments chosen to measure self-concept in the present study were the Tennessee Self-Concept Scale and the Personal Orientation Inventory.

Tennessee Self-Concept Scale. The Tennessee Self-Concept Scale (Fitts, 1965) is one of the more frequently used self-regard instruments. It consists of 100 self-description items, of which 90 assess the self-concept and 10 assess self-criticism (the self-criticism items are all MMPI Lie Scale items). Items are phrased half positively and half negatively to control acquiescence response set. Each of the 90 self-concept items was included only if seven clinical psychologists agreed perfectly on its location in one of three rows (identity, what I am; self-satisfaction, how I accept myself; and behavior, how I act); and, also, in one of five columns (physical, moral-ethical, personal, family, and social). For each item, the respondent chooses one of five response options labeled from "com-

pletely false" to "completely true." Fourteen scores are derived from these items in the Counseling Form of the scale. This version is considered appropriate for feedback to an individual. The same items are also utilized in the Clinical and Research Form, though this form yields some different scale scores than the Counseling Form.

The Clinical and Research Form was used in the present study. Several scores from this scale have remarkably high correlations with other measures of personality functioning. For example, the Taylor Manifest Anxiety Scale correlates $-.70$ with Total Positive, a scale reflecting the overall level of self-esteem, and correlations with various MMPI scales are frequently in the $.50$ s and $.60$ s. Thus it seems safe to conclude that the scale overlaps sufficiently with well known measures to consider it a possible alternative for these measures in various applied situations.

The standardization group for the Tennessee Self-Concept Scale was a sample of 626 persons from various parts of the country ranging in age from 12 to 68 years. There were approximately equal numbers of both sexes and both black and white subjects who were representative of all social, economic, intellectual levels, and educational levels ranging from sixth grade through Ph.D. degrees (Fitts, 1965).

Reliability estimates based on test-retest data from 60 college students over a two week period indicates a reliability of .92 for the total scale, reliabilities in the .80s and .90s for the major subscales, and in the .60s and .70s for the minor subscales. In addition, the author claims to have demonstrated through profile analysis that "the distinctive features of individual profiles are still present for most persons a year or more later" (Fitts, 1965, p. 15).

Validity studies between self-regard scores for the Tennessee Self-Concept Scale and other alleged measures of self-regard are not particularly encouraging. For example, in an unpublished study by Wayne (1963), cited by Fitts (1965), a correlation of .68 was found between Izard's Self Rating Positive Affect Scale and the Tennessee Self-Concept Scale. Vincent (1968), studying undergraduate students and using Self-Satisfaction and Personal Satisfaction scores, found nonsignificant correlations between Tennessee Self-Concept Scale scores and the California Psychological Inventory Self-Acceptance and Self-Control scores; r_s of .61 and .67 with Maslow's Security S-11 scores; r_s of .39 and .39 with 16 PF Emotional Stability scores; and r_s of .44 and .43 with 16 PF Confidant Adequacy scores.

Although the subscale scores seem to have certain content validity, there has been little work directed toward

empirical validation of individual scores. For example, what does the acquiescence conflict score relate to behaviorally? Is this score a reflection of acquiescence response set or defensiveness? So far as discriminant validity among rows or among columns is concerned, it seems unlikely that this kind of discriminant validity can be established. It certainly has not been thus far. Suggestive negative evidence comes from Vacchiano and Strauss's (1968) factor analysis of the 90 self and 10 lie items which yielded 20 factors. These did not correspond to the three row and five column scales and only 75 of the 90 self-regard items contributed at all to factor formation. Although Fitts implicitly assumes discriminant validity in talking about profiles, no information is given as to how far apart two column scores (or two row scores) should be in order to be interpretable as anything other than chance differences, let alone as indicative of valid differences in specified aspects of self-regard. Suggestive positive evidence comes from Rentz and White (1967) who identified three factors with primary loadings on one they called self-acceptance.

Despite weaknesses in the manual and in information supporting the concurrent and discriminant validity of the Tennessee Self-Concept Scale, it still ranks among the better measures combining group discrimination with self-

concept information. The empirical scales apparently are useful as a means of screening individuals for pathology, and some of the other scales seem to add some intuitive data about self-perceptions. The Tennessee Self-Concept Scale has stimulated a multitude of research and it is hoped that a future manual will summarize the more important results related to test interpretation and validation.

Because discriminant validity among rows and columns is difficult to establish only the total positive score will be used in this study. This seems to be the score least open to criticisms and most supported by the research. For example, Ashcraft and Fitts (1964) reported that total self-regard scores increased significantly in therapy patients, as opposed to no change in patients waiting for therapy.

A comparison between 369 psychiatric patients and 626 nonpatients of the standardization group revealed highly significant (mostly at the .0001 level) differences between the two groups for almost every subscale. This finding was supported by other studies cited in the Manual. Numerous correlations between various Tennessee Self-Concept Scale subscales and other personality measures such as Edwards Personal Preference Schedule and the Minnesota Multiphasic Personality Inventory are also provided in the Manual and appear to support the validity of the Tennessee Self-Concept Scale (Lefebvre, 1971).

Bentler (in Buros, 1972) concluded that the Tennessee Self-Concept Scale ranks among the better measures combining group discrimination with self-concept information.

Personal Orientation Inventory. The other instrument chosen to measure aspects of self-concept is the Personal Orientation Inventory (Shostrom, 1966). This instrument was developed to meet the need of a comprehensive measure of values and behavior seen to be of importance in the development of self-actualization. The Personal Orientation Inventory consists of 150 two-choice comparative value judgment items reflecting values and behavior seen to be of importance in the development of the self-actualizing individual. The examinee is asked to select one statement from each pair that is most true of himself. There are four major scales and ten subscales. Two of the major scales define a time ratio and assess the degree to which an individual is reality oriented in the present and who is able to bring past experiences and future expectations into meaningful continuity. The other two major scales define a support ratio and determine one's relative autonomy by assessing the balance between other directedness (dependent) and inner directedness (self-willed). The subsidiary scales purport to tap values important in the development of the self-actualizing individual; Self-Actualizing Value (SAV), Existentiality (Ex), Feeling Reactivity (Fr), Spontaneity

(S), Self-Regard (Sr), Self-Acceptance (Sa), Nature of Man (Nc), Synergy (Sy), Acceptance of Aggression (A), and Capacity for Intimate Contact (C).

The items are scored twice, first for two basic scales of personal orientation: inner directed support (127 items), and time competence (23 items); and second for the 10 subscales each of which measures a conceptually important element of self actualization. Some of the subscales which seem to be of particular value to a study of self-concept are the following: self-regard (16 items), self-acceptance (26 items), feeling reactivity (23 items) which measures sensitivity of responsiveness to one's own needs and feelings, spontaneity (18 items), and acceptance of aggression (25 items).

Items in the Personal Orientation Inventory are stated both positively and negatively (e.g., 16a., I sometimes feel embarrassed by compliments; 16b., I am not embarrassed by compliments.). Thus, the particular continuum or end-poles of the dichotomy in question are made explicit to eliminate the possibility that different readers will assume different opposites of the statement in question.

The Personal Orientation Inventory has become established in the research literature since its introduction in 1966. Shostrom (1972) published a bibliography listing all the published and unpublished research up to

August, 1972. This included some 70 odd published articles and another 70 unpublished theses and dissertations. Reliability and validity measures reported in the manual and also throughout the extensive literature support the use of the Personal Orientation Inventory for measuring concepts of self-actualization.

Examining test-retest reliability, Klavetter and Mogar (1967) administered the Personal Orientation Inventory twice within one week to a sample of 48 college students. All correlations ranged from .52 to .82 with the major Personal Orientation Inventory scales of Time Competence and Inner Directedness displaying generally high reliability coefficients of .71 and .77 respectively.

Ilardi and May (1968) examining the stability of Personal Orientation Inventory scores among a sample of 46 student nurses over a one-year period, obtained coefficients ranging from .32 to .74. They concluded that these findings were within the range of comparable test-retest reliability studies for the Minnesota Multiphasic Personality Inventory and the Edwards Personal Preference Schedule.

As regards discriminant validity, Shostrom (1965) reported that the Inventory significantly discriminated between clinically judged (by psychologists) self-actualized and non-self-actualized groups on 11 of the 12 scales.

A study designed to further investigate the sensi-

tivity of the Personal Orientation Inventory in clinical settings is reported by Shostrom and Knapp (1966). In this study the Personal Orientation Inventory was administered to two groups of outpatients in therapy, 37 beginning patients entering therapy and 39 patients in advanced stages of therapeutic progress. The latter group had been in therapy from 11 to 64 months with a mean time of 26.6 months. Analysis of the Personal Orientation Inventory scores showed all 12 scales differentiated between the criterion groups at the .01 level or higher.

Gade and Weir (1966), using a pre- and posttesting design, reported significant differences in discrepancy scores between a group of alcoholics having individual therapy and a group not having individual therapy. All pre- and posttest score changes for the individual therapy group were in the direction of greater self-actualization.

Pearson (1966) studying college students found that students exposed to a permissive group-directed form of guidance that permitted interaction between students, under the leadership of a counselor demonstrated a more effective adjustment to college than students exposed to other methods. Of four groups studied, increase was greatest for this group on the major scales of Time Competence and Inner Direction as well as on eight of the ten subscales.

One study of particular significance to the present study was conducted by Sheridan and Shack (1970). They found that college students volunteering for a sensitivity training experience did not consistently score differently on the Personal Orientation Inventory than did those not volunteering. A significant difference ($p < .05$) between these samples was obtained only on the Self-Acceptance Scale. Differences on the other 11 scales, while in the direction of greater self-actualization for the volunteers on all but one scale, did not reach statistical significance.

Locus of Control

Rotter's Locus of Control Scale. Rotter (1966 developed from social learning theory a concept of internal-external control of reinforcement which describes the degree to which an individual believes that reinforcements are contingent on his own behavior. Internal control refers to individuals who believe that reinforcements are contingent upon their own behavior, capacities, or attributes. External control refers to individuals who believe that reinforcements are not under their personal control but rather are under the control of powerful others, luck, chance, fate, etc. Thus, according to Rotter, depending on his past reinforcement experiences, a person will have developed an internal or external locus as the source of reinforcement.

As a logical extension of the concept of internal-external control, Rotter (1966) hypothesized that internals would show more overt striving for achievement than externals who feel that they have little control over their rewards and punishments. Earlier studies have shown that internals spent more time in intellectual activities, exhibited more intense interests in academic pursuits, and scored higher on intelligence tests and other academic tests than did externals (e.g., Crandall, Katkovsky, & Crandall, 1965).

Comprehensive reviews of the work on the development, validity, and reliability of the scale which measures attitudes of internal-external control have been reported by Rotter (1966), Lefcourt (1966), and Joe (1971).

Reliability measures reported for the Locus of Control Scale have been consistent ranging from .48 to .84 for 2 month test-retest periods. Internal consistency estimates of reliability have ranged from .65 to .79 with nearly all correlations in the .70s (Rotter, 1966).

Furthermore, Rotter reported good discriminant validity for the Locus of Control Scale. This was indicated by low correlations with such variables as intelligence, social desirability, and political affiliation. Similarly, Hersch and Scheibe (1967) found nonsignificant correlations between Locus of Control total scores and three different

measures of intelligence. Recent findings regarding the relationship between internal-external control and social desirability have been contradictory with significant relationship obtained by Feather (1967) and Altrocchi, Palmer, Hellman, and Davis (1968); and nonsignificant relationships reported by Strickland (1965), Tolor (1967), and Tolor and Jalowiec (1968).

Although Rotter (1966) stated that sex differences on the Locus of Control Scale among college students appear to be minimal, recent studies by Feather (1967, 1968) showed that females earned significantly higher external scores than males at the University of England. This latter finding is consistent with the one case in which sex differences on the Locus of Control Scale were noted by Rotter. He has suggested that sex differences may be related to geographical differences as well as sex-role identification.

Recently, several alternative measures of internal-external control have been developed. Schneider (1968) constructed a forced-choice activity preference scale and noted that internally oriented males preferred skilled activities because these would confirm expectancies of internal control and externally oriented males preferred chance activities because these are not related to individual performance. Dies (1968) developed a projective measure for evaluating internal-external control from TAT stories.

He found that internally oriented subjects told significantly more TAT stories manifesting a belief in internal control and externally oriented subjects gave significantly more stories manifesting a belief in external control. He also noted that with the projective measure it was possible to identify correctly 80% of subjects according to their scores on the Locus of Control Scale. Scales similar to the Locus of Control Scale have also been designed for testing children (Battle & Rotter, 1963; Bailer, 1961; Crandall, Katkovsky, & Crandall, 1965). Reviews of these are given in Solomon, Houlihan, Busse, and Parelius (1971).

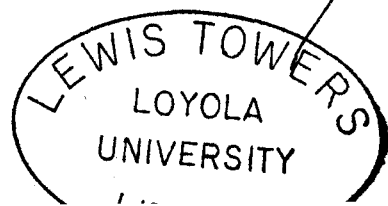
Recently, other researchers have remarked on inherent limitations in the Locus of Control Scale. Coan (cf. Dies, 1968) has argued that the Locus of Control Scale favors items dealing with social and political events as opposed to items regarding personal habits, traits, goals, or other interpersonal and intrapersonal concerns. Coan suggested that the items on the Locus of Control Scale may not tap all major aspects of personal control.

Similarly, Gurin, Gurin, Lao, and Beattie (1969) and Lao (1970) have argued for distinctions within the concept of internal-external control in studies of Negro youth. They factor analyzed responses made by 1695 Negro students to an extended I-E scale and found several independent factors. The first two independent factors were Control

Ideology which referred to how much control one believes most people in society possess and Personal Control which referred to how much control one believes he personally possesses. The third factor, System Modifiability, measured the degree to which an individual believes racial discrimination, war, and world affairs can be modified. The fourth factor, Race Ideology, contained most of the race-related items which, when subjected to a second factor analysis, produced a factor which was labelled Individual System Blame. This latter factor dealt with the attribution of blame either to oneself or to a faulty system.

Mirels (1970) administered the Locus of Control Scale to 316 college students and identified two factors. Factor I concerned the amount of control one believes he personally possesses while Factor II concerned the extent to which one believes a citizen can exert control over political and world affairs.

Another investigation of the multidimensionality of Rotter's Locus of Control Scale was conducted by Kleiber, Veldman, and Menaker (1973). The item pairs of Rotter's scale were separated into 23 internal and 23 external items. Each single item was presented and followed by a 4 point Likert-type scale which ranged from "strongly agree" to "strongly disagree." Responses to the 46 items were inter-correlated, factor analyzed by the principle axis method and



rotated toward simple structure by means of Kaiser's Varimax method. Correlations between original item pairs were quite low (between .04 and $-.35$) which indicates a lack of intended bipolarity. The validity of these item pairs is therefore questionable. When the 46 items were considered as a new format three orthogonal factors were indicated: (a) nonbelief in luck and chance, (b) system modifiability, and (c) individual responsibility for failure.

Joe (1971), reviewing personality correlates, found that externals, in contrast to internals, were more anxious, aggressive, dogmatic, and less trustful and more suspicious of other, lacking in self-confidence and insight as well as having low needs for social approval, and having a greater tendency to use sensitizing modes of defenses.

Hersch and Scheibe (1967) studying college volunteers found that volunteers categorized as internals were more effective than those categorized as externals in working with chronic mental patients. In contrast, a study concerned with personality characteristics of college volunteers in mental hospitals (Hersch, Kulik, & Scheibe, 1969) showed that the Locus of Control Scale did not differentiate between volunteers and nonvolunteers.

Recent studies have suggested that the more control an individual feels he can exert over the reinforcements in his life (i.e., the more internal his locus of control), the

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better his self-concept (Fitch, 1970) and the less likely he is to exhibit anxiety (Strassberg, 1973) or other indices of maladjustment (DuCette & Wolk, 1972). Strassberg and Robinson (1974) attempted to extend these findings to a population of drug users. Using the Tennessee Self-Concept Scale as one of the personality measures they correlated to the Locus of Control Scale, they predicted and found internality was significantly associated with higher levels of self-esteem (for Total Positive, $r = -.38$ $p < .01$) and with better psychological adjustment (Defensive Positive Scale and the Psychosis Scale = $p < .05$, and the General Maladjustment Scale and the Neurosis Scale = $p < .01$). An internal locus of control was also associated with a higher motivation to achieve success and a lower motivation to avoid failure.

Martin and Shepel (1974) examined the effects of brief training in helping relations on the variables of discrimination ability (Carkhuff, 1969) and locus of control (Rotter, 1966). Locus of control was measured using the James I-E scale (James & Shepel, 1973) and discrimination ability was assessed with the Discrimination Index (Martin, 1971), a modification of the original Carkhuff scale. They found that changes in counseling skills and personality orientation may be effected in even very brief but structured training programs. Post-Discrimination Index scores showed

that reported counseling effectiveness was raised to the minimum facilitative level. Locus of control was also associated with counseling skills and they noted an $r = -.56$ ($p < .001$) between post-Discrimination Index and post-I-E scores. This relationship suggested that the I-E scale may be a useful selection device to optimize training effectiveness with lay counselors.

Northwestern Personality Inventory. The second instrument that will be used to measure locus of control is the Northwestern Personality Inventory. Acting upon the criticism of the Locus of Control Scale (Gurin et al., 1969; Lao, 1970; Mirels, 1970) Youkilis (Note 1) devised an instrument that would avoid some of the problems of the Locus of Control Scale.

The original scale, consisting of 96 items, was refined to the present 20 item inventory. The inventory is divided into 8 internal items and 12 external items, and has the following scales: Internal Items (8), External Items (12), Good Events (10), Bad Events (10), Internal Bad Items (3), Internal Good Items (5), External Bad Items (7), External Good Items (5), Self Items (14), and People Items (6).

Youkilis obtained a Pearson correlation of .60 between the Northwestern Personality Inventory and the Rotter Scale using a sample of 578 college students. Using the

Kuder-Richardson formula for internal consistency the male sample ($N=264$) obtained an alpha of .78 and the female sample ($N=314$) obtained an alpha of .76, combining for a total alpha of .77 for both groups. This compares favorably to an alpha of .71 for a sample of 373 college sophomores on the Rotter. Over a 6 week interval, Youkilis obtained a test-retest reliability of .63 for 79 subjects.

Youkilis and Blom (Note 2) looked at the total Northwestern Personality Inventory and also the Good Events (10) and Bad Events (10) items and correlated these with both the Introversion Scale and the Neuroticism Scale of the Eysenck Personality Inventory, the Rosenberg Self-Esteem Scale, the Beck Depression Scale, and the Self-Control Scale. With a sample of 104 she found that Northwestern Personality Inventory Total correlated significantly with all inventories except the Introversion Scale of the Eysenck Personality Inventory (at least .05 in all cases). The Northwestern Personality Inventory Good Situations reached significance ($p < .05$) with only the Neuroticism Scale of the Eysenck Personality Inventory and the Beck Depression Scale. Finally, the Northwestern Personality Inventory Bad Situations correlated significantly ($p < .05$) with all inventories except the Introversion Scale of the Eysenck Personality Inventory. The Eysenck Personality Inventory Neuroticism Scale, the Rosenberg Self-Esteem Scale, and the

Self-Control Scale correlated negatively with Total, Good Situations, and Bad Situations of the Northwestern Personality Inventory.

Learning Motivation Orientation

The Epistemic Orientation Inventory. The Epistemic Orientation Inventory was developed by Shack (1968) using factor analysis to measure the relative strength of two basic learning motivators considered to be based on parallel but independent need systems--the intrinsic motivator (composed of curiosity indulgence, self-exploration, and self-direction) and the extrinsic motivator (composed of grade dependency and future orientation). The intrinsic motivator can be defined as the motives which produce knowledge-seeking behavior for its own end. The extrinsic motivator can be defined as virtually any knowledge producing need which does not have for its end information processing for its own sake. According to Shack (1968), "extrinsic needs, in general, are more environment or social context related and geared to adjustment with external events, directed toward the alleviation of discomfort and self-maintenance within the social situation" (p. 18).

The intrinsic need orientation scales are defined as follows. Curiosity Indulgence reflects the need to learn for its own sake to satisfy intellectual curiosity. Self-

Exploration reflects the need to learn more about one's personality, or identity, to develop personal values or beliefs, and to discover a meaningful and broader perspective on life. Self-Direction reflects the need to be free to pursue one's goals in an independent manner without being committed to follow a professional direction.

The extrinsic need orientation scales are grade dependency and future orientation. Grade dependency simply reflects the need to do whatever is necessary to get good grades. Future orientation reflects the need to prepare oneself for a future profession, via academic learning, in order to eventually accomplish such achievement goals as attaining a high salary, or being recognized as an expert in a profession.

The Epistemic Orientation Inventory was designed for a college population to help in both academic and vocational selection and counseling. Shack derived his theoretical basis for a two-factor motivation concept from Hergberg's two-factor theory of job satisfaction (1961, 1966). Essentially the two factors reflect independent growth and adjustment need systems which should account for motivational orientations in a variety of settings including school. Shack found significant differences in motivational orientation toward learning between students attending different institutions of higher education and this difference

seemed to reflect a consistency between the expectations and structure of these institutions (i.e., business schools vs. liberal arts colleges). Correlations between scales within the intrinsic and extrinsic factor are consistently much higher than correlations between the extrinsic and intrinsic scales. Also correlations between each subscale and its respective total intrinsic or extrinsic factor score are reported as consistently higher than intercorrelations between subscales within each factor. Sheridan and Shack (1970) found the Epistemic Orientation Inventory successfully discriminated between college students volunteering and not volunteering for a sensitivity training laboratory. The Epistemic Orientation Inventory showed the volunteers were significantly less extrinsically motivated than nonvolunteers.

Test-retest coefficients on the original sample (160 Oberlin College students) ranged from .70 to .87 on the inventory's subscales.

The construct validity studies that Shack carried out generally supported each factor's ability to measure what they claimed. When groups of known characteristics were contrasted on the Epistemic Orientation Inventory factor scores, differences were usually in the direction expected. Grade dependent, future orientation, and curiosity indulgence all reached significance at the .05 confidence level.

Kerschner (1975), studying college students as volunteers, hypothesized that volunteers show a different motivational pattern on the Epistemic Orientation Inventory than nonvolunteers. She found that initially the volunteers had a greater degree of curiosity about themselves and were oriented to know more about how they operate in new circumstances than did nonvolunteer subjects. However, on a re-test three months later she found that not only did the volunteer group not show a significant increase on the Epistemic Orientation Inventory, but that the nonvolunteer group showed a significant increase on the Self-Exploratory subscale and the Total Intrinsic motivation scores. Thus, she concluded that volunteering does not increase intrinsic motivation though it seems to be present initially to a greater extent in volunteers as opposed to nonvolunteers.

Skills Training Groups

Members of both experimental (volunteer) and control (nonvolunteer) groups participated in a 4-month skills training group. These skills training groups are sponsored by Loyola University and follow Egan's (1975) developmental model of helping. The model is called developmental because it is composed of three progressive interdependent stages. These stages are preceded by a pre-helping phase that stresses the importance and various aspects of attending and listening. In State 1 the helper or trainer responds

to the world of the client with respect and empathy. He strives to establish rapport and enter into an effective collaborative working relationship with the client to help him explore the ways he is living ineffectively. The helper skills in Stage 1 are primary level accurate empathy, respect, genuineness, and concreteness. The client attempts to develop the skill of self-exploration in this stage. In Stage 2 the trainer uses the skills of advanced accurate empathy, self-disclosure, confrontation, immediacy, and alternate frames of reference to help the client see a more objective picture of himself and realize his need to change his behavior. In this stage the trainee needs to be able to listen nondefensively and to develop a dynamic self-understanding.

Finally, in Stage 3 the trainer helps the trainee choose and implement the kinds of action programs that lead to constructive behavioral goals. He supports the trainee as the latter moves through the successes and failures of these action programs.

The ideal logic of the helping process is three-fold. First, the trainee goes through the process of being a client. The trainer responds to him from the trainee's frame of reference. He helps the trainee explore his behavior as concretely as possible. He tries to respect and understand the trainee, and tries to help him understand

himself and deal realistically with the issues that bother him.

However, the goal is not only to go through this process with the trainee but to help the trainee learn how to go through the same process with himself. In other words, the trainer is trying to help the trainee become autonomous or independent. The helping process is really only successful when the trainee learns how to explore his own problems concretely and take effective steps to resolve them.

The ultimate goal in this model is to train the trainee to help other clients. The helping process is most successful when through it the trainee learns the skills he needs to live effectively and learns them so well that he can now be a helper to others. Once a person learns to initiate with and respond to others even if only on a minimally facilitative level, he is a potential helper to others.

These skills are learned through practice sessions in the classroom and trainees are encouraged to experiment with these new skills in solving their own problems and in relating to others with whom they interact.

Hypotheses

In light of the above literature review, the following hypotheses were investigated.

- (1) Volunteers show significantly greater positive change in scores on all five personality measures than nonvolunteers (the Locus of Control and Northwestern Personality Inventory demonstrate positive change in the direction of higher internal or intrinsic scores).
- (2) Skill trained subjects show significantly greater positive change in scores on all five personality measures than nonskill trained subjects.
- (3) Skill trained volunteers show significantly greater positive change in scores on all five personality measures than skill trained nonvolunteers.
- (4) Skill trained volunteers show significantly greater positive change in scores on all five personality measures than nonskill trained volunteers.
- (5) Skill trained nonvolunteers show significantly greater positive change in scores on all five personality measures than nonskill trained nonvolunteers.

METHOD

Subjects

The subjects for this study were 26 male and 26 female undergraduate students enrolled at Loyola University of Chicago or neighboring colleges. The experimental condition ($N=26$) was composed of individuals engaged in volunteer service at the Loyola Day School for emotionally disturbed children. The control condition ($N=26$) was composed of two groups of individuals: (1) students who expressed an interest in volunteering but were not selected because their class schedules did not allow them to be available at the times volunteers were needed; and (2) students who pre-registered for a human skills training course. Both the experimental (volunteer) and control (nonvolunteer) conditions were subdivided into subjects who became involved in a skills training experience and those who did not. Accordingly, Experimental Condition I included subjects who were both volunteers and also engaged in a 15 week, 3 hour human skills training group. Experimental Condition II included subjects who were volunteers but not involved in a skills training group.

Control Condition I was composed of students who did not express an interest in volunteering but were engaged in

a skills training group. Finally, Control Condition II included subjects who were neither volunteers (though they expressed an interest in volunteering) nor members of a skills training group.

These four groups were composed of 13 subjects each. Originally, 40 experimental and 34 control subjects completed the three test sequence design. However, due to the restrictions of the 2x2x3 repeated measures analysis of variance design (McCall, 1975), equal group size was required. Using a table of random numbers, subjects were selected for each group until the required number of 13 was reached. Within the restrictions imposed by the design, experimental and control groups were matched as closely as possible on the variables of age, sex, and major in school (Table 1). The subjects dropped were from Experimental Condition II and from both Control Conditions I and II. The mean age and mean year in school for the 11 female and 3 male subjects dropped from Experimental Condition II were 22 and 2.3 respectively. The mean age and mean year in school for the 4 female subjects dropped from Control Condition I were 20 and 3.0 respectively. Finally, the mean age and mean year in school for the 4 female subjects dropped from Control Condition II were 24 and 3.0 respectively. The mean group scores of the individuals dropped were not significantly different from the mean group scores of the subjects included in the study on any of the personality measures.

Materials

The personality measures selected were the Tennessee Self-Concept Scale, the Personal Orientation Inventory, the Rotter Internal-External Locus of Control Scale, the Northwestern Personality Inventory, and the Epistemic Orientation Inventory.

The Tennessee Self-Concept Scale and the Personal Orientation Inventory are both designed to measure aspects of a person's self-acceptance and self-concept. Both of these have been described at some length in the review of the literature.

The Locus of Control Scale (Appendix A) and the Northwestern Personality Inventory (Appendix B) are designed to tap some dimension of how much control a person perceives he has over his own life and the surrounding environment. Reliability and validity studies for Rotter's Locus of Control Scale are discussed at length in the review of the literature.

The Northwestern Personality Inventory is a recent measure devised by Youkilis (Note 1) in an attempt to remedy some of the difficulties she felt existed in the present locus of control measures. It is used in this study in an attempt to further investigate its reliability and validity.

The final instrument used in this study is the Epistemic Orientation Inventory (Appendix C). This instru-

ment is designed to measure whether a person is primarily motivated internally or externally in regards to his orientation toward learning. The internal-external dimension of this inventory seems on face value to be related to the other two measures of locus of control. As with the others, reliability and validity studies are discussed in the review of the literature.

In addition, a 5-point rating scale (Appendix D) was devised on which the coordinators of the various classrooms were instructed to rate the volunteers with whom they worked. The scale ranged from a rating of poor (1) to excellent (5) on their volunteer ability. The scale was strictly a subjective measure with no reliability or validity studies conducted on it. It was merely designed to give a coordinator's global impression of each volunteer, and for this purpose appears to have face validity.

Procedure

The total study was conducted over a period of six months. The initial testing sessions took place in the fall of 1974 with retests following at three and six month intervals. All testing was conducted at Loyola University Child Guidance Center. Subjects came to the Center and independently completed the five inventories at their own convenience.

The initial contact with all subjects was by phone. Names were taken from lists of students who were already volunteering, students who had signed up to be volunteers, or students who had preregistered for a second semester skills training course. Subjects who were either volunteering or had signed up to volunteer were told that the Loyola Day School was conducting research on its volunteer program in an effort to get a better understanding of the types of students who volunteer and subsequently to design a program that would better fulfill their needs. Students who had preregistered for skills training but were not associated with the volunteer program were told that various programs throughout the university were being studied, and that one of these was the skills training program.

The second and third contacts were also by phone. Initially, on the second test sequence, the experimenter sent letters with stamped, self-addressed postcards indicating date and time when the subject could come in for the inventories. With only a 30% return, the experimenter returned to talking to subjects by phone.

The five inventories were included in a folder along with an information face sheet and a sheet of typed instructions on how to proceed. The inventories were lettered A through E, and the instrument sequence was rotated so that

each measure would be in each of five positions an equal number of times.

The instruction sheet (Appendix E) requested that inventories be completed in the order presented and included any particular instructions needed for a specific inventory. On the initial test sequence, the experimenter met with each subject and answered any questions they asked. This personal contact continued for each test sequence as much as possible considering subjects came in at their own convenience.

Over the six month period, all subjects were administered the five personality measures on a test-retest₁-retest₂ basis with approximately a three month interval between each retest session. All inventories were administered and scored in accordance with the specifications provided in their respective manuals. Total testing time for each subject on each testing occasion was approximately 1-1/2 hours for the five personality measures.

In addition, eight subjects, two from each original subgroup were asked to engage in three personal interviews approximately 30 minutes in length. These were conducted at the same time periods of the test-retest₁-retest₂ sequence. The purpose of gathering this ipsative data was to try to acquire a more comprehensive understanding of the reason(s) college students volunteer for social service and if they are able to perceive any significant changes in

their life as a result of the volunteer experience.

The format of the interview covered the following points:

- (1) What do you see as the most important influences in your life right now?
- (2) How would you rate these in order of importance?
- (3) How do you feel about the way you are handling your life at the present time?
- (4) What things or situations would have to change to make you a happier person?
- (5) How would you go about doing it?
- (6) At the present time do you think you have much influence on how these changes can take place?

Finally, if by the last interview the subject had not yet made a direct reference to the volunteer experience and/or the skills training experience as an influence in his life, the interviewer asked him about the experience and what the effects of it were.

At the end of the 6-month period coordinators of the various classrooms in which the volunteers worked rated them on a 5-point scale ranging from poor (1) to excellent (5) on their volunteer ability.

RESULTS

Demographic Data

The sex, age, year in school, and major area of study of all subjects was examined in an attempt to insure comparability of groups. However, there was some difficulty with this since subjects were selected for a particular group condition primarily as a result of their choice to either volunteer or register for a skills training group. As an example of this preselection factor, an individual who signed up to volunteer and was not selected because of a scheduling conflict automatically became a member of the control group. Furthermore, whether or not he decided to sign up for a skills training course determined if he ended up as a subject in Control Condition I (nonvolunteer with skills training) or Control Condition II (nonvolunteer with no skills training).

Table 1 shows the characteristics of subjects for each condition. In all cases females outnumbered the males, often more than three to one. Across groups, mean age was comparable except for Control Condition II (nonvolunteers, not skill trained) where group mean age was approximately a year younger than the average student in Control Condition II being a sophomore and the average student in the other

Table 1

Demographic Information on All Groups

	Volunteer Condition		Nonvolunteer Condition	
	Skills (N=13) Training	No Skills (N=13) Training	Skills (N=13) Training	No Skills (N=13) Training
Sex				
Male	2	3	5	4
Female	11	10	8	9
Age (<u>M</u>)	20.07	20.30	20.38	19.23
Year in School (<u>M</u>)	3.15	3.15	3.30	2.30
Major				
Psychology	11	4	9	7
Nursing	2	1	1	3
Special Education	-	5	-	-
Biology	-	3	2	1
Sociology	-	-	1	-
Mathematics	-	-	-	1
Undeclared	-	-	-	1

three group conditions being a college junior.

Major in school varied. However, psychology led all groups except Experimental Condition II (volunteer, not skill trained) where special education, a related field, took precedence. Of 52 cases, there were 31 psychology majors, 7 nursing majors, 5 special education majors, 6 biology majors, and 1 each for sociology, mathematics, and undeclared. The fact that psychology and other helping related areas (nursing and special education) comprise the majority of individuals involved in the study is not surprising, since it would be expected that such individuals would be either interested in helping others through volunteering or helping themselves through a course that would enhance their personal growth and development.

Experimental Hypotheses

An analysis of variance (hereafter ANOVA) was conducted on each inventory and each of its subscales. To determine where the significant differences between the groups existed, the Duncan Range Test was performed on each analysis of variance.

Table 2 illustrates the key for reading the tables that follow in this section.

Tables 3 and 4 report the analysis of variance for the Northwestern Personality Inventory. The results demonstrated an interaction between skills training and volun-

Table 2
Summary of Key Symbols and Abbreviations
for Reading Text

Variables

Volunteer Condition (V)

Volunteer

Nonvolunteer

Skills Training Condition (S)

Skills Training

No Skills Training

Time Condition (T)

T_1 = November

T_2 = February

T_3 = May

V = volunteer

NV = nonvolunteer

ST = skills training

NT = no skills training

Table 3

Cell Means for the Northwestern Inventory

Time	Volunteer			Nonvolunteer			Total Time
	Skills	No Skills	Total	Skills	No Skills	Total	
1	68.00	67.77	67.88	66.77	71.85	69.31	68.59
2	69.38	66.62	68.00	65.38	70.15	67.77	67.88
3	67.23	67.15	67.19	63.15	70.85	67.00	67.10
Total	68.21	67.18	67.69	65.10	70.95	68.03	

Means for the Skills Training Condition

Time	Skills	No Skills
1	67.38	69.81
2	67.38	68.38
3	65.19	69.00
Total	66.65	69.06

Table 4
Analysis of Variance for the Northwestern
Personality Inventory

Source	Error Term	<u>df</u>	<u>MS</u>	<u>F</u>
Skills Training vs No Skills Training (S)	P/SxV	1	226.56	3.30
Volunteer vs Nonvolunteer (V)	P/SxV	1	4.33	<1.0
Time (T)	PxT/SxV	2	29.28	1.63
SxV	P/SxV	1	460.41	6.71*
SxT	PxT/SxV	2	25.62	1.42
VxT	PxT/SxV	2	11.58	<1.0
P/SxV	-----	48	68.59	-----
SxVxT	PxT/SxV	2	6.01	<1.0
PxT/SxV	-----	96	17.98	-----

* $p < .05$

teering, indicating that nonvolunteers without skills training are significantly more internal than nonvolunteers with skills training. This contradicts hypotheses 2 and 5, where it was predicted that skills training would make an individual adopt a more internal frame of reference toward himself and his environment. The observed R_5 value from Duncan's test for contrast of NVNT (nonvolunteer with no skills training) with NVST (nonvolunteer with skills training) was equal to 5.85, which is significant at the .05 confidence level.

Tables 5 and 6 illustrate the ANOVA for Rotter's Locus of Control Scale. The results demonstrated an interaction between volunteering and time, indicating that nonvolunteers were significantly more external than volunteers for times 1 and 2, and became more internal over time. This finding supports hypothesis 1 in which it was predicted that volunteers would be more internal than nonvolunteers. The shortest significant range from the Duncan's test was $R_6 = 1.63$ ($\alpha = .05$), and the observed values for contrast of NVT_1 with $VT_1 = VT_2$ and NVT_2 and NVT_3 were 2.61, 1.73, and 1.65 respectively.

Tables 7 and 8 illustrate the ANOVA for the Total Extrinsic Scale of the Epistemic Orientation Inventory. No significant differences were found for either the Grade Dependent or the Future Orientation subscales that make up the Total Extrinsic Scale. The results demonstrate an inter-

Table 5

Cell Means for Rotter's Locus of Control Scale

Time	Volunteer			Nonvolunteer			Total Time
	Skills	No Skills	Total	Skills	No Skills	Total	
1	8.23	9.85	9.04	12.62	10.69	11.65	10.35
2	9.62	8.46	9.04	10.77	9.23	10.00	9.52
3	10.85	9.92	10.38	11.77	8.08	9.92	10.15
Total	9.56	9.41	9.49	11.72	9.33	10.53	

Means for the Skills Training Condition

Time	Skills	No Skills
1	10.42	10.27
2	10.19	8.85
3	11.31	9.00
Total	10.64	9.37

Table 6
Analysis of Variance for Rotter's
Locus of Control Scale

Source	Error Term	<u>df</u>	<u>MS</u>	<u>F</u>
Skills Training vs No Skills Training (S)	P/SxV	1	62.83	1.76
Volunteer vs Nonvolunteer (V)	P/SxV	1	42.06	1.18
Time (T)	PxT/SxV	2	9.74	1.45
SxV	P/SxV	1	48.52	1.36
SxT	PxT/SxV	2	15.13	2.25
VxT	PxT/SxV	2	30.83	4.59*
P/SxV	-----	48	35.62	-----
SxVxT	PxT/SxV	2	8.79	1.31
PxT/SxV	-----	96	6.72	-----

* $\underline{p} < .05$

Table 7

Cell Means for the Total Extrinsic Scale of the Epistemic Orientation Inventory

Time	Volunteer			Nonvolunteer			Total Time
	Skills	No Skills	Total	Skills	No Skills	Total	
1	84.92	90.77	87.85	96.92	87.62	92.27	90.06
2	91.38	91.69	91.54	96.00	84.15	90.08	90.81
3	89.46	95.92	92.69	92.31	84.85	88.58	90.63
Total	88.59	92.79	90.69	95.08	85.54	90.31	

Means for the Skills Training Condition

Time	Skills	No Skills
1	90.92	89.19
2	93.69	87.92
3	90.88	90.38
Total	91.38	89.17

Table 8
Analysis of Variance for the Total Extrinsic Scale of
the Epistemic Orientation Inventory

Source	Error Term	<u>df</u>	<u>MS</u>	<u>F</u>
Skills Training vs No Skills Training (S)	P/SxV	1	277.33	<1.0
Volunteer vs Nonvolunteer (V)	P/SxV	1	5.77	<1.0
Time (T)	PxT/SxV	2	8.02	<1.0
SxV	P/SxV	1	1841.64	3.12
SxT	PxT/SxV	2	98.78	1.48
VxT	PxT/SxV	2	248.25	3.73*
P/SxV	-----	48	591.22	-----
SxVxT	PxT/SxV	2	7.39	<1.0
PxT/SxV	-----	96	66.63	-----

* $p < .05$

action between time and volunteering indicating a significant difference ($p < .05$) between volunteers' scores between T_1 and T_3 , showing that volunteers became more extrinsic in their learning orientation over a six month time period. An R_3 of 4.76 was required for .05 significance. The observed value contrasting VT_3 and VT_1 was 4.84.

Of the three subscales (Curiosity, Self-Definition, and Self-Explanatory) that make up the Total Intrinsic Scale of the Epistemic Orientation Inventory, only the Self-Explanatory scale showed any significant difference between groups. Tables 9 and 10 illustrate the ANOVA for this scale and demonstrate a main effect for the skills training variable (S). The results indicate that nonskill trained subjects were significantly more self-explanatory ($p < .05$) than subjects who were involved in skills training. This contradicts hypothesis 2 where it was predicted that the opposite would be the case.

Tables 11 and 12 illustrate the ANOVA for the Total Intrinsic Scale of the Epistemic Orientation Inventory, and demonstrates a marginally significant ($.10 > p > .05$) main effect for the skills training variable (S). As with the Self-Explanatory scale, the nonskill trained subjects tended to be more intrinsic in their learning orientation than skill trained subjects. This does not lend support to hypothesis 2.

The final scale for the Epistemic Orientation In-

Table 9

Cell Means for the Self-Explanatory Scale of the Epistemic Orientation Inventory

Time	Volunteer			Nonvolunteer			Total Time
	Skills	No Skills	Total	Skills	No Skills	Total	
1	30.46	31.85	31.15	30.54	32.23	31.38	31.27
2	30.46	32.38	31.42	30.69	32.00	31.35	31.38
3	29.92	30.62	30.27	30.38	32.23	31.31	30.79
Total	30.28	31.62	30.95	30.54	32.15	31.35	

Means for the Skills Training Condition

Time	Skills	No Skills
1	30.50	32.04
2	30.58	32.19
3	30.15	31.42
Total	30.41	31.88

Table 10
Analysis of Variance for the Self-Explanatory Scale of
the Epistemic Orientation Inventory

Source	Error Term	<u>df</u>	<u>MS</u>	<u>F</u>
Skills Training vs No Skills Training (S)	P/SxV	1	84.78	4.17*
Volunteer vs Nonvolunteer (V)	P/SxV	1	6.16	<1.0
Time (T)	PxT/SxV	2	5.20	1.76
SxV	P/SxV	1	.78	<1.0
SxT	PxT/SxV	2	.43	<1.0
VxT	PxT/SxV	2	4.31	1.46
P/SxV	-----	48	20.32	-----
SxVxT	PxT/SxV	2	2.54	<1.0
PxT/SxV	-----	96	2.95	-----

* $p < .05$

Table 11

Cell Means for the Total Intrinsic Scale of the Epistemic Orientation Inventory

Time	Volunteer			Nonvolunteer			Total Time
	Skills	No Skills	Total	Skills	No Skills	Total	
1	108.15	120.33	114.19	114.15	120.00	117.08	115.63
2	110.00	121.23	115.62	117.23	119.85	118.54	117.08
3	110.08	118.77	114.42	112.00	120.31	116.15	115.29
Total	109.41	120.08	114.74	114.46	120.05	117.26	

Means for the Skills Training Condition

Time	Skills	No Skills
1	115.15	120.12
2	113.62	120.54
3	111.04	119.54
Total	111.94	120.06

Table 12

Analysis of Variance for the Total Intrinsic Scale of
the Epistemic Orientation Inventory

Source	Error Term	<u>df</u>	<u>MS</u>	<u>F</u>
Skills Training vs No Skills Training (S)	P/SxV	1	2576.64	3.88 +
Volunteer vs Nonvolunteer (V)	P/SxV	1	246.26	<1.0
Time (T)	PxT/SxV	2	46.79	<1.0
SxV	P/SxV	1	251.31	<1.0
SxT	PxT/SxV	2	14.85	<1.0
VxT	PxT/SxV	2	5.97	<1.0
P/SxV	-----	48	663.28	-----
SxVxT	PxT/SxV	2	58.29	1.15
PxT/SxV	-----	96	50.75	-----

+ .10 > p > .05

ventory is the Response Style Control Scale. Tables 13 and 14 illustrate the ANOVA for this scale in which a significant interaction between volunteering and time is observed. The observed R_5 value from Duncan's test for contrast of NVT_1 and NVT_2 with VT_1 was equal to 2.12 with an R_5 value of 2.11 needed for significance at the .05 level. These results demonstrate that nonvolunteers for time 1 and 2 had higher response style control scores than volunteers for time 1.

The Personal Orientation Inventory was one of the instruments used to measure self-concept. Of its 14 scales all but one reached significance and supported a number of the experimental hypotheses.

Tables 15 and 16 illustrate the ANOVA for the Time Incompetent Scale of the Personal Orientation Inventory, and Tables 17 and 18 illustrate its counterpart, the Time Competent Scale. Since these scales together make up the total number of items and are basically the reverse of each other, they will be discussed together. Both ANOVAs demonstrated a significant interaction between volunteering and skills training ($p < .01$), and showed that subjects who were both volunteers and also skill trained were more time competent than either volunteers with no training or nonvolunteers with skills training. These findings lend support to both hypotheses 3 and 4. On the Time Incompetent Scale the R_4 value required for .05 significance was $R_4 = 1.89$. The

Table 13

Cell Means for the Response Style Control Scale of the Epistemic Orientation Inventory

Time	Volunteer			Nonvolunteer			Total Time
	Skills	No Skills	Total	Skills	No Skills	Total	
1	33.77	33.46	33.62	36.46	35.00	35.73	34.67
2	34.46	33.23	33.85	37.23	34.23	35.73	34.79
3	34.69	35.31	35.00	34.00	33.54	33.77	34.38
Total	34.31	34.00	34.15	35.90	34.26	35.08	

Means for the Skills Training Condition

Time	Skills	No Skills
1	35.12	34.23
2	35.85	33.73
3	34.35	34.42
Total	35.10	34.13

Table 14

Analysis of Variance for the Response Style Control Scale
of the Epistemic Orientation Inventory

Source	Error Term	<u>df</u>	<u>MS</u>	<u>F</u>
Skills Training vs No Skills Training (S)	P/SxV	1	37.03	<1.0
Volunteer vs Nonvolunteer (V)	P/SxV	1	33.23	<1.0
Time (T)	PxT/SxV	2	2.25	<1.0
SxV	P/SxV	1	17.33	<1.0
SxT	PxT/SxV	2	15.70	1.35
VxT	PxT/SxV	2	45.40	3.91*
P/SxV	-----	48	107.54	-----
SxVxT	PxT/SxV	2	.47	<1.0
PxT/SxV	-----	96	11.60	-----

* $p < .05$

Table 15

Cell Means for the Time Incompetent Scale of the Personal Orientation Inventory

Time	Volunteer			Nonvolunteer			Total Time
	Skills	No Skills	Total	Skills	No Skills	Total	
1	4.08	6.62	5.35	6.69	5.69	6.19	5.77
2	3.69	5.77	4.73	6.69	4.92	5.81	5.27
3	4.15	6.15	5.15	6.62	4.62	5.62	5.38
Total	3.97	6.18	5.08	6.67	5.08	5.87	

Means for the Skills Training Condition

Time	Skills	No Skills
1	5.38	6.15
2	5.19	5.35
3	5.38	5.38
Total	5.32	5.63

Table 16

Analysis of Variance for the Time Incompetent Scale of
the Personal Orientation Inventory

Source	Error Term	<u>df</u>	<u>MS</u>	<u>F</u>
Skills Training vs No Skills Training (S)	P/SxV	1	3.69	<1.0
Volunteer vs Nonvolunteer (V)	P/SxV	1	24.64	1.66
Time (T)	PxT/SxV	2	3.56	1.25
SxV	P/SxV	1	140.41	9.47*
SxT	PxT/SxV	2	2.15	<1.0
VxT	PxT/SxV	2	1.26	<1.0
P/SxV	-----	48	14.82	-----
SxVxT	PxT/SxV	2	.18	<1.0
PxT/SxV	-----	96	2.86	-----

* $p < .01$

Table 17

Cell Means for the Time Competent Scale of the Personal Orientation Inventory

Time	Volunteer			Nonvolunteer			Total Time
	Skills	No Skills	Total	Skills	No Skills	Total	
1	18.31	16.31	17.31	16.15	16.62	16.38	16.85
2	19.31	17.00	18.15	16.23	17.85	17.04	17.60
3	18.69	16.85	17.77	16.00	18.23	17.12	17.44
Total	18.77	16.72	17.74	16.13	17.56	16.85	

Means for the Skills Training Condition

Time	Skills	No Skills
1	17.23	16.46
2	17.77	17.42
3	17.35	17.54
Total	17.45	17.14

Table 18
Analysis of Variance for the Time Competent Scale of
the Personal Orientation Inventory

Source	Error Term	<u>df</u>	<u>MS</u>	<u>F</u>
Skills Training vs No Skills Training (S)	P/SxV	1	3.69	<1.0
Volunteer vs Nonvolunteer (V)	P/SxV	1	31.41	2.21
Time (T)	PxT/SxV	2	8.16	2.76
SxV	P/SxV	1	118.56	8.34*
SxT	PxT/SxV	2	3.02	1.02
VxT	PxT/SxV	2	.70	<1.0
P/SxV	-----	48	14.21	-----
SxVxT	PxT/SxV	2	2.58	<1.0
PxT/SxV	-----	96	2.95	-----

* $p < .01$

observed values contrasting VNT with VST and NVST with VST were 2.21 and 2.70 respectively. On the Time Competent Scale the R_4 value required for .05 significance was 1.86. The observed values contrasting VST with NVST and VST with VNT were 2.64 and 2.05 respectively.

As with the previous two subscales, the Inner Directed and Other Directed Scales of the Personal Orientation Inventory comprise the total number of inventory items and will be examined together. Tables 19, 20, 21, and 22 illustrate the ANOVAs and cell means for these two subscales, and demonstrate a main effect for time on both subscales. All subjects became less dependent and more independent as a function of time. On the Other Directed Scale the R_3 value required for .05 significance was 2.14. The observed values contrasting T_1 with T_3 , T_1 with T_2 , and T_2 with T_3 were 4.32, 2.17, and 2.15 respectively. On the Inner Directed Scale the R_3 value required for .05 significance was 2.14. The observed values contrasting T_3 with T_1 , T_3 with T_2 , and T_2 with T_1 were 5.71, 2.60, and 3.11 respectively.

Tables 23 and 24 illustrate the ANOVA for the Self-Actualizing Scale of the Personal Orientation Inventory. The results indicate that a significant difference ($p < .05$) was discovered between scores at time 1 and time 3, demonstrating that all subjects showed an increase in Self-Actualizing Value over the six month period. The observed

Table 19

Cell Means for the Other Directed Scale of the Personal Orientation Inventory.

Time	Volunteer			Nonvolunteer			Total Time
	Skills	No Skills	Total	Skills	No Skills	Total	
1	31.85	38.77	35.31	41.15	43.92	42.54	38.92
2	33.08	36.77	34.92	39.46	37.70	38.58	36.75
3	30.15	36.31	33.23	35.46	36.46	35.96	34.60
Total	31.69	37.28	34.49	38.69	39.36	39.03	

Means for the Skills Training Condition

Time	Skills	No Skills
1	36.50	41.35
2	36.27	37.23
3	32.81	36.38
Total	35.19	38.32

Table 20

Analysis of Variance for the Other Directed Scale of
the Personal Orientation Inventory

Source	Error Term	<u>df</u>	<u>MS</u>	<u>F</u>
Skills Training vs No Skills Training (S)	P/SxV	1	381.64	1.76
Volunteer vs Nonvolunteer (V)	P/SxV	1	803.31	3.70
Time (T)	PxT/SxV	2	243.39	9.08*
SxV	P/SxV	1	236.31	1.09
SxT	PxT/SxV	2	51.01	1.90
VxT	PxT/SxV	2	73.44	2.74
P/SxV	-----	48	217.38	-----
SxVxT	PxT/SxV	2	1.52	<1.0
PxT/SxV	-----	96	26.79	-----

* $p < .01$

Table 21

Cell Means for the Inner Directed Scale of the Personal Orientation Inventory

Time	Volunteer			Nonvolunteer			Total Time
	Skills	No Skills	Total	Skills	No Skills	Total	
1	89.69	86.62	88.15	85.31	79.38	82.35	85.25
2	92.46	88.00	90.23	86.85	86.15	86.50	88.37
3	95.85	89.77	92.81	88.38	89.85	89.12	90.96
Total	92.67	88.13	90.40	86.85	85.13	85.99	

Means for the Skills Training Condition

Time	Skills	No Skills
1	87.50	83.00
2	89.65	87.08
3	92.12	89.81
Total	89.76	86.62

Table 22
Analysis of Variance for the Inner Directed Scale of
the Personal Orientation Inventory

Source	Error Term	<u>df</u>	<u>MS</u>	<u>F</u>
Skills Training vs No Skills Training (S)	P/SxV	1	381.64	1.65
Volunteer vs Nonvolunteer (V)	P/SxV	1	758.56	3.28
Time (T)	PxT/SxV	2	425.25	15.94**
SxV	P/SxV	1	77.56	<1.0
SxT	PxT/SxV	2	18.58	<1.0
VxT	PxT/SxV	2	19.04	<1.0
P/SxV	-----	48	231.29	-----
SxVxT	PxT/SxV	2	89.81	3.37*
PxT/SxV	-----	96	26.68	-----

* $p < .05$

** $p < .01$

Table 23

Cell Means for the Self-Actualizing Scale of the Personal Orientation Inventory

Time	Volunteer			Nonvolunteer			Total Time
	Skills	No Skills	Total	Skills	No Skills	Total	
1	20.38	20.08	20.23	20.62	18.62	19.62	19.92
2	20.92	20.69	20.81	20.38	19.00	19.69	20.25
3	21.23	20.62	20.92	20.46	20.54	20.50	20.71
Total	20.85	20.46	20.65	20.49	19.38	19.94	

Means for the Skills Training Condition

Time	Skills	No Skills
1	20.50	19.35
2	20.65	19.85
3	20.85	20.58
Total	20.67	19.92

Table 24

Analysis of Variance for the Self-Actualizing Value Scale
of the Personal Orientation Inventory

Source	Error Term	<u>df</u>	<u>MS</u>	<u>F</u>
Skills Training vs No Skills Training (S)	P/SxV	1	21.56	1.47
Volunteer vs Nonvolunteer (V)	P/SxV	1	20.10	1.37
Time (T)	PxT/SxV	2	8.16	3.87*
SxV	P/SxV	1	5.03	<1.0
SxT	PxT/SxV	2	2.58	1.23
VxT	PxT/SxV	2	1.66	<1.0
P/SxV	-----	48	14.63	-----
SxVxT	PxT/SxV	2	5.08	2.41
PxT/SxV	-----	96	2.11	-----

* $p < .05$

R_3 value contrasting T_3 with T_1 was .79, with .59 being necessary for a significant difference at the .05 level.

Seven of the remaining nine subscales of the Personal Orientation Inventory also showed a significant effect for time, exhibiting a significant increase in scores ($p < .05$ or better) on all of the subscales as a function of time. These include the Existentiality Scale (Tables 25 and 26), the Feeling Reactivity Scale (Tables 27 and 28), the Spontaneity Scale (Tables 29 and 30), the Self-Acceptance Scale (Tables 31 and 32), the Synergy Scale (Tables 33 and 34), the Acceptance of Aggression Scale (Tables 35 and 36), and the Capacity for Intimate Contact Scale (Tables 37 and 38). This last scale reached significance at the .01 confidence level. The Self-Regard Scale showed no significant difference in scores for any variable.

Duncan Range Tests were performed on all of the scales mentioned above to determine between which time periods the significant differences occurred.

For the Existentiality Scale an R_3 of .76 was required for .05 significance. The observed values contrasting T_3 and T_2 and T_3 and T_1 were .75 and 1.33 respectively, indicating that all subjects became more flexible over time.

For the Feeling Reactivity Scale an R_3 of .65 was necessary for .05 significance. The observed value contrasting T_3 and T_1 was .87, suggesting that over the six

Table 25

Cell Means for the Existentiality Scale of the Personal Orientation Inventory

Time	Volunteer			Nonvolunteer			Total Time
	Skills	No Skills	Total	Skills	No Skills	Total	
1	22.85	21.00	21.92	21.08	18.46	19.77	20.85
2	23.23	21.08	22.15	21.23	20.15	20.69	21.42
3	23.92	21.62	22.77	22.38	20.77	21.58	22.17
Total	23.33	21.23	22.28	21.56	19.79	20.68	

Means for the Skills Training Condition

Time	Skills	No Skills
1	21.96	19.73
2	22.23	20.62
3	23.15	21.19
Total	22.45	20.51

Table 26
Analysis of Variance for the Existentiality Scale of
the Personal Orientation Inventory

Source	Error Term	<u>df</u>	<u>MS</u>	<u>F</u>
Skills Training vs No Skills Training (S)	P/SxV	1	146.16	4.22*
Volunteer vs Nonvolunteer (V)	P/SxV	1	100.16	2.89
Time (T)	PxT/SxV	2	23.02	6.66*
SxV	P/SxV	1	1.08	<1.0
SxT	PxT/SxV	2	1.24	<1.0
VxT	PxT/SxV	2	3.20	<1.0
P/SxV	-----	48	34.60	-----
SxVxT	PxT/SxV	2	3.08	<1.0
PxT/SxV	-----	96	3.45	-----

* $p < .05$

Table 27

Cell Means for the Feeling Reactivity Scale of the Personal Orientation Inventory

Time	Volunteer			Nonvolunteer			Total Time
	Skills	No Skills	Total	Skills	No Skills	Total	
1	16.46	16.23	16.35	15.62	15.23	15.42	15.88
2	17.23	16.31	16.77	15.62	16.15	15.88	16.33
3	17.92	17.00	17.46	16.08	16.00	16.04	16.75
Total	17.21	16.51	16.86	15.77	15.79	15.78	

Means for the Skills Training Condition

Time	Skills	No Skills
1	16.04	15.73
2	16.42	16.23
3	17.00	16.50
Total	16.49	16.15

Table 28

Analysis of Variance for the Feeling Reactivity Scale
of the Personal Orientation Inventory

Source	Error Term	<u>df</u>	<u>MS</u>	<u>F</u>
Skills Training vs No Skills Training (S)	P/SxV	1	4.33	<1.0
Volunteer vs Nonvolunteer (V)	P/SxV	1	45.23	2.95
Time (T)	PxT/SxV	2	9.74	3.94*
SxV	P/SxV	1	5.03	<1.0
SxT	PxT/SxV	2	.31	<1.0
VxT	PxT/SxV	2	1.17	<1.0
P/SxV	-----	48	15.32	-----
SxVxT	PxT/SxV	2	2.16	<1.0
PxT/SxV	-----	96	2.47	-----

* $p < .05$

Table 29

Cell Means for the Spontaneity Scale of the Personal Orientation Inventory

Time	Volunteer			Nonvolunteer			Total Time
	Skills	No Skills	Total	Skills	No Skills	Total	
1	13.38	12.85	13.12	12.15	11.77	11.96	12.54
2	14.08	12.85	13.46	12.46	12.62	12.54	13.00
3	14.15	13.15	13.65	12.77	13.38	13.08	13.37
Total	13.87	12.95	13.41	12.46	12.59	12.53	

Means for the Skills Training Condition

Time	Skills	No Skills
1	12.77	12.31
2	13.27	12.73
3	13.46	13.27
Total	13.17	12.77

Table 30
Analysis of Variance for the Spontaneity Scale of
the Personal Orientation Inventory

Source	Error Term	<u>df</u>	<u>MS</u>	<u>F</u>
Skills Training vs No Skills Training (S)	P/SxV	1	6.16	<1.0
Volunteer vs Nonvolunteer (V)	P/SxV	1	30.52	1.87
Time (T)	PxT/SxV	2	8.93	3.87*
SxV	P/SxV	1	10.78	<1.0
SxT	PxT/SxV	2	.43	<1.0
VxT	PxT/SxV	2	1.10	<1.0
P/SxV	-----	48	16.31	-----
SxVxT	PxT/SxV	2	2.01	<1.0
PxT/SxV	-----	96	2.31	-----

* $p < .05$

Table 31

Cell Means for the Self-Acceptance Scale of the Personal Orientation Inventory

Time	Volunteer			Nonvolunteer			Total Time
	Skills	No Skills	Total	Skills	No Skills	Total	
1	17.54	16.38	16.96	15.31	15.08	15.19	16.08
2	17.62	16.62	17.12	16.00	17.69	16.85	16.98
3	18.54	17.15	17.85	15.85	17.92	16.88	17.37
Total	17.90	16.72	17.31	15.72	16.90	16.31	

Means for the Skills Training Condition

Time	Skills	No Skills
1	16.42	15.73
2	16.81	17.15
3	17.19	17.54
Total	16.81	16.81

Table 32

Analysis of Variance for the Self-Acceptance Scale of
the Personal Orientation Inventory

Source	Error Term	<u>df</u>	<u>MS</u>	<u>F</u>
Skills Training vs No Skills Training (S)	P/SxV	1	.0	0.0
Volunteer vs Nonvolunteer (V)	P/SxV	1	39.00	1.67
Time (T)	PxT/SxV	2	22.75	6.64*
SxV	P/SxV	1	54.26	2.33
SxT	PxT/SxV	2	4.67	1.36
VxT	PxT/SxV	2	7.33	2.14
P/SxV	-----	48	23.28	-----
SxVxT	PxT/SxV	2	5.51	1.61
PxT/SxV	-----	96	3.42	-----

* $p < .005$

Table 33

Cell Means for the Synergy Scale of the Personal Orientation Inventory

Time	Volunteer			Nonvolunteer			Total Time
	Skills	No Skills	Total	Skills	No Skills	Total	
1	7.08	7.00	7.04	7.38	6.23	6.81	6.92
2	7.69	7.69	7.69	7.54	6.54	7.04	7.37
3	7.46	7.31	7.38	7.54	6.69	7.12	7.25
Total	7.41	7.33	7.37	7.49	6.49	6.99	

Means for the Skills Training Condition

Time	Skills	No Skills
1	7.23	6.62
2	7.62	7.12
3	7.50	7.00
Total	7.45	6.91

Table 34
Analysis of Variance for the Synergy Scale of the
Personal Orientation Inventory

Source	Error Term	<u>df</u>	<u>MS</u>	<u>F</u>
Skills Training vs No Skills Training (S)	P/SxV	1	11.31	3.78
Volunteer vs Nonvolunteer (V)	P/SxV	1	5.77	1.93
Time (T)	PxT/SxV	2	2.74	4.48*
SxV	P/SxV	1	8.31	2.77
SxT	PxT/SxV	2	.06	<1.0
VxT	PxT/SxV	2	.71	1.16
P/SxV	-----	48	2.99	-----
SxVxT	PxT/SxV	2	.13	<1.0
PxT/SxV	-----	96	.61	-----

* $p < .025$

Table 35

Cell Means for the Acceptance of Aggression Scale of the Personal Orientation Inventory

Time	Volunteer			Nonvolunteer			Total Time
	Skills	No Skills	Total	Skills	No Skills	Total	
1	16.85	16.23	16.54	16.31	13.62	14.96	15.75
2	17.00	15.38	16.19	16.46	14.23	15.35	15.77
3	17.69	16.38	17.04	17.38	14.92	16.15	16.60
Total	17.18	16.00	16.59	16.12	14.26	15.49	

Means for the Skills Training Condition		
Time	Skills	No Skills
1	16.58	14.92
2	16.19	14.81
3	17.54	15.65
Total	16.95	15.13

Table 36

Analysis of Variance for the Acceptance of Aggression
Scale of the Personal Orientation Inventory

Source	Error Term	<u>df</u>	<u>MS</u>	<u>F</u>
Skills Training vs No Skills Training (S)	P/SxV	1	129.26	6.49
Volunteer vs Nonvolunteer (V)	P/SxV	1	47.41	2.38
Time (T)	PxT/SxV	2	12.13	3.88
SxV	P/SxV	1	16.03	<1.0
SxT	PxT/SxV	2	.28	<1.0
VxT	PxT/SxV	2	2.20	<1.0
P/SxV	-----	48	19.93	-----
SxVxT	PxT/SxV	2	1.78	<1.0
PxT/SxV	-----	96	3.12	-----

* $p < .05$

Table 37

Cell Means for the Capacity for Intimate Contact Scale of the
Personal Orientation Inventory

Time	Volunteer			Nonvolunteer			Total Time
	Skills	No Skills	Total	Skills	No Skills	Total	
1	19.00	18.62	18.81	17.69	16.31	17.00	17.90
2	19.62	18.38	19.00	17.92	19.00	18.46	18.73
3	20.08	19.31	19.69	19.31	19.15	19.23	19.46
Total	19.56	18.77	19.17	18.31	18.15	18.23	

Means for the Skills Training Condition

Time	Skills	No Skills
1	18.35	17.46
2	18.77	18.69
3	19.69	19.23
Total	18.94	18.46

Table 38

Analysis of Variance for the Capacity for Intimate
Contact Scale of the Personal Orientation Inventory

Source	Error Term	<u>df</u>	<u>MS</u>	<u>F</u>
Skills Training vs No Skills Training (S)	P/SxV	1	8.78	<1.0
Volunteer vs Nonvolunteer (V)	P/SxV	1	34.16	1.64
Time (T)	PxT/SxV	2	31.58	9.19*
SxV	P/SxV	1	4.01	<1.0
SxT	PxT/SxV	2	2.12	<1.0
VxT	PxT/SxV	2	7.43	2.16
P/SxV	-----	48	20.83	-----
SxVxT	PxT/SxV	2	8.89	2.59
PxT/SxV	-----	96	3.44	-----

* $p < .01$

month period all subjects became more sensitive to their own needs and feelings.

On the Spontaneity Scale an R_3 of .62 was needed for .05 significance. The observed value contrasting T_3 and T_1 was .82, indicating that over the six month period all subjects became more able to freely express their feelings behaviorally.

For the Self-Acceptance Scale an R_3 of .77 was required for .05 significance. Contrasting T_3 with T_1 and T_2 with T_1 the observed values were 1.29 and .91 respectively, suggesting that over time all subjects became more able to accept themselves in spite of weakness.

For the Synergy Scale an R_3 of .33 was necessary for .05 significance. The observed values contrasting T_2 with T_1 and T_3 with T_1 were .44 and .33 respectively. These results indicate that all subjects as a function of time increased in ability to transcend dichotomies and to see opposites as meaningfully related to each other.

An R_3 of .71 was required for .05 significance for the Acceptance of Aggression Scale. The observed values contrasting T_3 with T_1 and T_3 with T_2 were .85 and .84 respectively, indicating that over time all subjects became more accepting of their feelings of anger and aggression.

Finally, for the Capacity for Intimate Contact Scale, an R_3 of .77 and an R_2 of .73 were required for significance

at the .01 confidence level. Contrasting T_3 with T_1 , T_3 with T_2 , and T_2 with T_1 , the observed values were 1.56, .73, and .83 respectively, indicating that all subjects increased in frequency of having warm interpersonal relationships as a function of time.

Besides exhibiting an effect for time, Tables 25 and 26 illustrate a main effect for the skills training variable (S) on the Existentiality Scale of the Personal Orientation Inventory. This indicates that although all subjects became more flexible over time, skill trained subjects became even more flexible than the nonskill trained subjects. This latter finding lends further support to hypothesis 2, which states that skill trained subjects will show greater change in scores than nonskill trained subjects.

In similar fashion, Tables 35 and 36 also illustrate a main effect for the skills training variable on the Acceptance of Aggression Scale. Again, this demonstrates that even though all subjects became more accepting of feelings of anger and aggression as a function of time, skill trained subjects became even more accepting of these feelings than nonskill trained subjects. As with the Existentiality Scale, these results lend support to hypothesis 2.

The final scale of the Personal Orientation Inventory to be reported on is the Nature of Man, Constructive, Scale. Tables 39 and 40 illustrate the ANOVA for this scale and

Table 39

Cell Means for the Nature of Man, Constructive, Scale of the
Personal Orientation Inventory

Time	Volunteer			Nonvolunteer			Total Time
	Skills	No Skills	Total	Skills	No Skills	Total	
1	11.46	13.08	12.27	13.08	11.62	12.35	12.31
2	13.15	13.08	13.12	13.08	12.08	12.58	12.85
3	13.00	13.08	13.04	12.46	13.00	12.73	12.88
Total	12.54	13.08	12.81	12.87	12.23	12.55	

Means for the Skills Training Condition

Time	Skills	No Skills
1	12.27	12.35
2	13.12	12.58
3	12.73	13.04
Total	12.71	12.65

Table 40

Analysis of Variance for the Nature of Man, Constructive,
Scale of the Personal Orientation Inventory

Source	Error Term	<u>df</u>	<u>MS</u>	<u>F</u>
Skills Training vs No Skills Training (S)	P/SxV	1	.10	<1.0
Volunteer vs Nonvolunteer (V)	P/SxV	1	2.56	<1.0
Time (T)	PxT/SxV	2	5.41	3.55*
SxV	P/SxV	1	13.56	1.86
SxT	PxT/SxV	2	2.49	1.63
VxT	PxT/SxV	2	1.26	<1.0
P/SxV	-----	48	7.30	-----
SxVxT	PxT/SxV	2	10.33	6.79**
PxT/SxV	-----	96	1.52	-----

* $p < .05$

** $p < .005$

and demonstrate a significant interaction between skills training, volunteering, and time ($p < .05$). Because of the complexity of this interaction, an analysis of the data produced no definite conclusions.

The other instrument used to measure self-concept was the Tennessee Self-Concept Scale. An analysis of variance produced no significant differences between groups and/or conditions on this measure.

Table 41 illustrates the Pearson Correlation Coefficients between room coordinator ratings of volunteers ($N=26$) and all subscales of the five personality measures. Only the Northwestern Personality Inventory and the Tennessee Self-Concept Scale reached significance. The Northwestern Personality Inventory (Appendix B) was positively correlated with the Coordinator's Rating Scale (Appendix D), indicating that volunteers who had an internal locus of control tended to be rated highly by the coordinators in regard to their value as a volunteer. On the other hand, the Tennessee Self-Concept Scale correlated negatively with the Coordinator's Rating Scale, indicating that volunteers who scored low on the Tennessee Self-Concept Scale tended to be rated highly as volunteers by the coordinators.

An overview and summary of the significant personality measure subscales is presented in Table 42.

Table 41

Pearson Correlation Coefficients Between Coordinator Ratings
of Volunteers and All Subscales of the Personality Inventories
(N=26)

Variable List	Correlation of Variable with Coordinator Ratings
Northwestern Personality Inventory (NPI)	0.47**
Locus of Control (LOC)	-0.27
Epistemic Orientation Inventory (EOI)	
Grade Dependent (GD)	-0.22
Future Oriented (FO)	-0.02
Total Extrinsic (E)	-0.17
Curiosity (C)	0.25
Self-Definition (R)	0.26
Self-Explanatory (SE)	0.25
Total Intrinsic (I)	0.27
Response Style Control (RSC)	-0.16
Personal Orientation Inventory (POI)	
Time Incompetent (TI)	-0.28
Time Competent (TC)	0.28
Other Directed (O)	-0.11
Inner Directed (I)	0.05
Self-Actualizing Value (SAV)	0.13
Existentiality (EX)	0.03

Table 41 Continued

Variable List	Correlation of Variable with Coordinator Ratings
Feeling Reactivity (FR)	0.25
Spontaneity (S)	0.07
Self-Regard (SR)	0.08
Self-Acceptance (SA)	0.04
Nature of Man, Constructive (NC)	-0.23
Synergy (SY)	0.06
Acceptance of Aggression (A)	0.12
Capacity for Intimate Contact (C)	0.12
Tennessee Self-Concept Scale (TSCS)	-0.39*

* p .02, two-tailed test.

** p .05, two-tailed test.

Table 42
Overview and Summary of Significant
Personality Subscales

Scale	Support	Non- support	Contra- dictory
Northwestern Personality Inventory*			H ₂ H ₅
Locus of Control Scale*	H ₁		
Epistemic Orientation Inventory			
Total Extrinsic*			H ₁
Self-Explanatory*			H ₂
Total Intrinsic*		H ₂	
Personal Orientation Inventory			
Time Incompetent**	H ₃ H ₄		
Time Competent*	H ₃ H ₄		
Other Directed**	Time		
Inner Directed**	Time		
Self-Actualizing Value*	Time		
Existentiality*	H ₂ Time		
Feeling Reactivity*	Time		
Spontaneity*	Time		
Self-Acceptance*	Time		
Synergy*	Time		
Acceptance of Aggression*	H ₂ Time		
Capacity for Intimate Contact*	Time		

* p < .05

** p < .01

Interviews

As a supplement and one that was hoped would corroborate the experimental data, an individual was selected and interviewed from each of the four group conditions: volunteers with skills training, nonvolunteers with skills training, volunteers with no skills training, and nonvolunteers with no skills training. It was hypothesized that these interviews (format described in Method section) would show more qualitative improvement in areas of increased self-concept and perceived personal control over one's life for both volunteers in contrast to nonvolunteers and for skill trained subjects in contrast to nonskill trained subjects.

Originally, six females and two males agreed to be interviewed, two from each of the four conditions. However, due to some subjects switching groups during the six month interval (usually nonvolunteers being called to volunteer) only three interview subjects remained in their original conditions and could be maintained in the study. Of these three only two completed the three interview sequence. As a result, only two subjects will be discussed: a male from the volunteer/skills training condition and a female from the nonvolunteer/skills training condition.

Each subject was interviewed three times with approximately a three month interval between each interview.

The subject for the volunteer/skills training condition was a 21-year-old male who was a college senior majoring in psychology. He was also a student at Niles Seminary.

Over the period of all three interviews Joe seemed somewhat anxious and unsure of himself. He was in the process of trying to make some decisions about his future after graduation and seemed ambivalent about his various options.

In the first interview Joe felt that the most important influence in his life was his struggling to determine what direction his life should take after graduation. He felt the Seminary was a big factor in his life, but felt a sense of isolation there and wanted to try some new options. One of these was a career in business. His interest in psychology was waning, though the volunteer experience had sparked some renewed enthusiasm.

On one hand, he stated he felt pretty confident about the way he was handling his life, yet thought he needed more direction and concrete answers to make him more satisfied. He felt that the Seminary limited the areas he was exposed to, but did not have an alternative he was satisfied with.

In the second interview, Joe felt that getting through school and finding a job were the most important influences in his life at that time. He had decided to take a year leave of absence from the Seminary and was looking for a job as a

psychiatric aide. He expressed a concern about being unable to maintain his present friendships on as great a level of intensity as he presently had. He still expressed doubts about his decision to take a leave of absence, and stated that he would be happier if he were more definite about what direction his life would take. "Uncertainties keep you in suspense." He felt that the uncertainties he experienced were "free floating" and pervaded many areas of his life-- job, relationships, and life goals.

He reported that he did not have much personal control over his life, but rather that opportunities just happened. He amended this somewhat by stating that opportunities come along and that one has to look for and take advantage of them. He expressed a need to assert himself more and felt that this assertion would increase his ability to influence the direction of his life.

In the final interview he continued to express his struggle about taking a leave of absence from the Seminary. He reported feeling tired of school and unmotivated to go on to study theology at that time, though a number of people were trying to convince him to do so. He felt that finding out what he wanted to do remained the most important influence in his life.

He reported feeling pretty happy about the way he was handling his life, but wished that the searching was over.

He saw himself as working hard and exerting a lot of effort in the various tasks and situations in which he was involved.

He stated that he did not have much personal control over making decisions, and tended to accept many situations as if they were the result of God's will. The interviewer commented about his making some definite decisions, and he agreed that he was taking an active part in many of his decisions and as a result was exposing himself to more influences.

He stated that volunteering gave him a better understanding of children, but that he would not want to work with children as a career. He felt that volunteering had helped him learn different skills that have been beneficial in working with emotionally disturbed children as well as relating with others in general. In similar fashion, he also found that the skills training course helped him both in his dealings with the children and also in his own personal relationships with others.

The subject for the nonvolunteer/skills training condition was a 21-year-old female who was a college senior majoring in nursing.

In the first interview Mary felt that the most important influence in her life was the fact that she would be graduating shortly. She stated that getting her degree had been her major goal for the past several years. She was

working parttime at Mercy hospital and felt that being "financially insecure" was one of the biggest problems for her. She spent every weekend at home with her mother who had recently gotten a divorce from Mary's step-father. Besides paying for her own tuition and living in an apartment, Mary also helped her mother pay her bills. She expressed frustration and anger at not being able to understand one of her roommates, and at this individual's reluctance to share her difficulties with Mary. As a result she felt shut out and rejected. Mary also expressed a desire to move to Arizona, stating that people would be "more casual and less uptight and hyper there."

She rated money as being the most important issue for her at that time, and disliked the fact that it was exerting so much control over her life. She complained about her older brothers not helping their mother, despite having full time jobs. She rated her family as next important with school and the roommate situation following in order. She expressed an inability to remedy the roommate problem stating that she was afraid to say anything for fear of alienating her further.

She felt she was doing her best in handling her life, and felt satisfied with her efforts. She stated that if the money and roommate difficulties could be alleviated, she would be much happier. She felt she could make efforts to remedy

both of these situations, but that she did not have control over either of them.

In the second interview, Mary reported that she got a job at Mercy hospital but was disappointed that she was unable to start until a month after graduation. She felt that graduation and her new job were the most important influences in her life at that point. Keeping in touch with old friends was also an important concern for her. She would be splitting up with a very close roommate/friend (different from the one discussed above) and, though they expressed a wish to share an apartment together, they both decided they should live at home in order to save enough money to move to Arizona a year after they began their jobs. She expressed concern that the distance between them might be a barrier to their maintaining close and frequent contact. She reported that graduation was still the most important of these concerns, followed by career and splitting up with her friends.

She commented that taking the skills training course was very beneficial. She felt that it would help her in her later work and was helping her get along better with her roommates. She reported that she was better able to express her anger without bottling it up, and was also beginning to gain a greater understanding of her difficulty accepting compliments.

She felt she was handling her life sufficiently well

considering the problems she was experiencing. However, she admitted that perhaps being more honest and assertive would help her with many of her problems. As before, the money situation was the situation that would have to improve for her life to be happier. She also expressed a need for her social life to improve, suggesting that lack of time was the primary cause. Asserting herself more was also a prime concern for her.

She felt that she could change all of these things if she took the initiative, and that it was her responsibility to do so. She believed that the money issue would be the most difficult to change and that if the other two were more of a priority for her, she could make appropriate changes.

In the final interview, Mary was anticipating going home. She hoped to deepen her relationship with her mother, and was looking forward to spending more time with her. Again, she reported that the skills training course was very helpful, and that one of the reasons she took it was because she had not found life very fulfilling. Her close friend and roommate was also taking the course and had recently told Mary how much she meant to her. Mary described feeling surprised by this comment, and related how this stimulated an honest discussion between the two of them. She felt that this new honesty was risky and that it made leaving even more difficult. She admitted that she had never really invested

herself in any relationship because of her fear of getting too close and becoming too vulnerable. She concluded that, because of the course, she had come to realize that she had to take the initiative or face the alternative of being lonely.

In this final interview, Mary rated the course as being the most important influence in her life followed in order by her relationship with her mother, job, and leaving her roommate.

This last interviewee was atypical from most of the other individuals interviewed, since both in the second and third interviews she spontaneously mentioned the skills training course as a significant influence in her life. Typically neither volunteering nor skills training were mentioned except in response to a direct question made in reference to them.

Because of subject attrition, it was not possible to make any real comparisons between individuals from the various group conditions. Nevertheless, if one could make a generalization from the two individuals' interviews reported here, both volunteering and skills training seemed to exert positive influences on both of these individuals.

Nevertheless, it is possible to compare how each of these individuals scored on the various personality measures both over time and with their identified groups as a whole.

For this comparison only a few of the major significant scales and subscales will be examined.

Joe was a member of Experimental Condition I which included individuals who were both volunteers and also engaged in a skills training group. On the two measures of locus of control, the Northwestern Personality Inventory and Rotter's Locus of Control Scale, Joe became much more external over time. This was consistent both with the interview data and also with the group data for Experimental Condition I on both of these measures. As far as learning motivation orientation, Joe was markedly more extrinsically motivated than other members of Experimental Condition I at time 1 and became less so as time progressed. This seemed to be a function of Joe's uncertainty, indecision, and deep inner searching rather than a shift to a more intrinsic learning motivation orientation. On both Total Extrinsic and Total Intrinsic Scales, Joe's T_1 scores were quite divergent from the mean group scores. However, as time progressed, Joe's scores regressed more toward the group mean on both of these subscales.

The other interviewee, Mary, was a member of Control Condition I. This group included individuals who were not volunteers but were members of a skills training course. On the Northwestern Personality Inventory Mary was initially more internal than the group and became even more so at time 2.

However, as is consistent with both the interview data and with the increased external shift of the group, at time 3 Mary's score reflected a much greater external frame of reference. This seemed consistent with the many changes in her life and her reactions to them. Mary's scores on Rotter's Locus of Control Scale do not seem inconsistent with either her interview data or the group mean, though this scale did not pick up the same significant shift as demonstrated by the Northwestern Personality Inventory.

On the Tennessee Self-Concept Scale both individuals showed a marked positive shift in self-concept between times 1 and 2 with a slight decrease for time 3. Both of these shifts for these two individuals seemed consistent with their interview data, especially their decrease at time 3, since graduation, career choice, and job anxiety among others were issues that were causing some degree of tension and uncertainty in their lives. On the other hand, the individual scores on this measure for both subjects were quite different from the group means. One possible explanation was that many of the other group members were younger and not yet experiencing some of the crisis issues that graduating seniors encounter, and which can so easily unsettle one's self-confidence and feelings of control.

DISCUSSION

The discussion of the results of this study is divided into two sections. First, the discussion will examine the results that bear on the specific experimental hypotheses. Secondly, the discussion will deal with the implications of other related findings.

Experimental Hypotheses

First, it was hypothesized that volunteers would show significantly greater positive change in scores on all five personality measures than nonvolunteers. This hypothesis was directly supported by only one personality measure, Rotter's Locus of Control Scale, where volunteers had a more internal locus of control than nonvolunteers for times 1 and 2 and both groups continued to increase on the internal dimension for time 3. On the other hand, The Total Extrinsic Scale of the Epistemic Orientation Inventory illustrated contradictory results, showing that volunteers became more extrinsic in their learning orientation over a six month time period.

No support for the effects of volunteering was shown by either of the measures of self-concept or by the Northwestern Personality Inventory, leading to the conclusion that

this hypothesis was only minimally supported by the results.

The second hypothesis posed that skill trained subjects show significantly greater positive change in scores on all five personality measures than nonskill trained subjects. Again, the results were inconclusive. Two subscales of the Personal Orientation Inventory, the Existentiality Scale and the Acceptance of Aggression Scale, supported this hypothesis, indicating that skill trained subjects became both more flexible and more accepting of their feelings of anger and aggression than nonskill trained subjects. On the other hand, the Self-Explanatory Scale, a subscale of the Epistemic Orientation Inventory, contradicted this hypothesis demonstrating that nonskill trained subjects were significantly more self-explanatory than subjects who were involved in skills training. One possible explanation for this is that subjects by getting involved in a skills training experience thereby lessened the overt need for self-explanatory behavior since the individual was in the process of fulfilling this need.

Another subscale of the Epistemic Orientation Inventory, the Total Intrinsic Scale, showed marginal significance, indicating a trend similar to the Self-Explanatory

Scale, and suggesting that nonskill trained subjects tended to be more intrinsic in their learning motivation than skill trained subjects.

Both hypotheses 1 and 2 posed that either volunteering or skills training would both increase an individual's self-concept along with its various aspects and also would tend to make him adopt a more internal locus of control as a result of the experience. As can be seen from the results already discussed the latter change did not take place as hypothesized. On all measures of locus of control, there was either no significant difference found between experimental and control conditions, or the results contradicted the hypotheses. The only exception to this was Rotter's Locus of Control Scale which supported hypothesis 1 which stated that volunteers would be more internal than nonvolunteers. Several possible explanations could account for this. First, one could accept the results of Rotter's Scale as valid, pointing to the extensive research concerning its validity and reliability (cf. Joe, 1971; Lefcourt, 1966), and dismiss the Northwestern Personality Inventory and the Epistemic Orientation Inventory because of the relative lack of research about and supporting evidence for their validity and reliability.

The second possible explanation is that, as volunteer subjects worked with the emotionally disturbed children,

they came to realize that despite their efforts they were unable to effect either rapid or often even any change in these children. They found that in spite of their good intentions, they did not have the solutions themselves, and were forced to seek consultation and help elsewhere. As a result, they shifted from feeling that they were in personal control of a situation to feeling a sense of less control.

This second explanation also seems plausible in regards to hypothesis 2 which predicted that subjects involved in skills training would score higher than subjects not so involved. On both the measures of locus of control (the Northwestern Personality Inventory and the Locus of Control Scale) and learning orientation (the Epistemic Orientation Inventory) the results did not support hypothesis 2. Since skills training by its very nature is an introspective experience, subjects usually spend a great deal of time exploring and expressing their thoughts and feelings. Interpersonal feedback is an important element and an integral part of the learning experience. This feedback can be both positive and negative, either making one aware of elements of himself that he had either avoided looking at or else challenging self-perceptions that were not validated by others. Furthermore, individuals taking skills training courses are often motivated either by the desire to achieve greater personal growth or as an attempt to solve some per-

sonal problems. The combination of these various factors and the more realistic self-awareness that ensues from them could certainly influence one to adopt a more external locus of control vis-a-vis his life situation.

The third hypothesis stated that skill trained volunteers would show significantly greater positive change in scores on all five personality measures than skill trained nonvolunteers. This hypothesis was supported by one of the two sets of ratio subscales of the Personal Orientation Inventory, the Time Competent and the Time Incompetent Scales. The results of these two subscales can be interpreted as one finding and indicated that subjects who were both volunteers and also skill trained were more time competent (i.e., better able to live productively in the present to the extent that their past was used for reflective thought and their future was tied to present goals) than either volunteers with no training or nonvolunteers with skills training. All other measures failed to yield significant group differences, resulting in only minimal support for this hypothesis or for the fourth hypothesis which stated that skill trained volunteers would do significantly better than nonskill trained volunteers.

The last hypothesis stated that skill trained nonvolunteers would do better on all five personality measures than nonskill trained nonvolunteers. No support was found

for this hypothesis on any personality measure. Negative support was found on the Northwestern Personality Inventory where the results indicated that nonvolunteers without skills training were significantly more internal than nonvolunteer subjects who had skills training. This was exactly the opposite of what was predicted. As was suggested above, perhaps the confrontation, consciousness raising, and positive and negative feedback of the skills training sessions made one less sure of himself and feeling dependent on consultation and support from others.

Other Related Findings

The other significant finding was for the variable of time. On 10 subscales of the Personal Orientation Inventory all subjects, regardless of group condition, significantly increased their scores as a function of time. These findings lead one to conclude that, regardless of final group condition experienced, this sample of college students increased on several subscales that purport to measure various elements of a self-actualized individual. This increase could be a function of their increase in general maturity and life experience, rather than the result of any specific experience, such as volunteering or skills training. Another possible explanation could be that the increase was simply a function of test exposure. At any rate, time alone was not a significant factor for any other

personality measure. This might be expected since self-concept (as measured by the Tennessee Self-Concept Scale) and locus of control are personality constructs that are molded and influenced more by specific life events and experiences rather than general maturity and passage of time.

The present study had two major limitations that could have biased the results. First of all, in an attempt to insure comparability of subjects across the various group conditions individuals were chosen either from a list of students who had expressed an interest in volunteering or had preregistered for a skills training course. This expression of the intent to volunteer, while making the control group as similar as possible to the experimental group from the very beginning, may, in effect, have made these individuals so similar that the volunteer experience itself may have been insufficient to make a discernible difference between them. Or perhaps the individuals who expressed an interest but were not chosen to volunteer may have gotten involved in some other experiences which allowed them to actualize their intentions, thereby minimizing the effect of volunteering. The second difficulty was the rate of attrition. Though extensive efforts were made to insure that all subjects completed the pretest and two posttest sequence, some subjects failed to do so. Final sample size was further limited by the statistical design of the study which required equal

cell size. Because of this restriction, several subjects had to be randomly dropped from three of the group conditions to equal the lowest cell number. This resulted in a smaller sample that may have affected the level of significance to some degree.

Attrition rate was also a difficulty encountered with the interview subjects. Because of subjects switching from one group condition to another (five nonvolunteers being called to volunteer) and also in one case a subject not completing the three interview sequence, only two of eight original interview subjects could be discussed. This resulted in an extremely small sample and one in which only two of the four group conditions were represented. Nevertheless, the idea of supplemental idiographic data remains a positive adjunct to the statistical approach.

The correlations between the coordinators' ratings of the volunteers and the various subscales of the personality measures produced disappointing results. The Northwestern Personality Inventory correlated positively with coordinators' ratings, indicating that students who had an internal locus of control tended to be highly rated by the coordinators in regard to their value as volunteers. Though not reaching significance, this trend continued for the other two measures of locus of control, Rotter's Locus of Control Scale and the Epistemic Orientation Inventory. On the other

hand, the Tennessee Self-Concept Scale, Total Positive, correlated negatively with coordinators' ratings, suggesting that volunteers who scored low on the Tennessee Self-Concept Scale tended to be rated highly as volunteers by the coordinators. This is difficult to explain since the opposite would be expected. One possible explanation could be that individuals who had a lower self-concept tended to reach out more to others (i.e., the children with whom they were working) in an attempt to enhance their own self-esteem by implementing change in others. Another possible explanation is that the effects were simply due to chance. A third possible explanation is that individuals who had a lower self-concept tended to have more frequent contact with and became more reliant on the coordinators. Accordingly, this increased contact and reliance may have been interpreted as a display of interest and motivation, thereby earning a higher rating from the coordinators.

Overview and Conclusions

Several conclusions can be drawn from this study. In regards to the personality variable of locus of control, it seems that contrary to the hypothesis, college students who engage in volunteering with emotionally disturbed children and/or engage in skills training, tend to adopt a more external locus of control as a function of these experiences. Three reasons may account for this. As for the

volunteer experience, this finding may partially be the result of the severity of the children's emotional disturbance and the frustration and helplessness encountered in the volunteer-child interactions. Initially, the volunteers come into the program with a very idealistic viewpoint, but soon have to face the reality of the severity of the children's disturbance and the difficulty of making any significant change. As a result, they may become more external because they have to adopt the more realistic frame of reference of the coordinators in order to gain sufficient satisfaction from the volunteer experience. Likewise, the intensity of the interactions in the skills training experience, along with the elements of increased self-awareness, peer confrontation, and interactional style feedback, may lead one to adopt a more external frame of reference. The experience can often make one aware of elements about himself that he had either avoided examining or else challenge self-perceptions that were not validated by other members of the group. The types of interpersonal issues that are raised may bring one to the realization that he is not in as great control of his life as he had thought.

Finally, the age and year in school of this sample may also account for its more external locus of control level. As these students prepare to leave the protective surroundings of college and make serious life decisions and

career choices, their realization of their dependence on others and on life circumstances, along with their impending feelings of not really being in control of much of their destiny, may combine to make them adopt a more external locus of control (cf. Kerschner, 1975). It is interesting to note that the group condition that had the highest internal locus of control scores on the Northwestern Personality Inventory was the group with the lowest mean age and lowest year in school.

Even on Rotter's Locus of Control Scale, where volunteers were more internal than nonvolunteers at time 1, the nonvolunteer group became significantly more internal over time and the volunteer group tended to become more external over time though this did not reach significance at the .05 level.

In regards to the personality variable of self-concept the Tennessee Self-Concept Scale did not differentiate between any of the four group conditions. The other measure of self-concept, the Personal Orientation Inventory, did lend minimal support to three of the five experimental hypotheses. It was found that skill trained volunteers were more time competent than volunteers with no training or nonvolunteers with skills training (hypotheses 3 and 4). In addition, on the Existentiality and Acceptance of Aggression subscales skill trained subjects showed greater change

in scores than nonskill trained subjects (hypothesis 2). On the 10 subscales of this last measure, all subjects, regardless of group condition, significantly increased their scores as a function of time, leading to the conclusion that college students who volunteer may increase in elements of self-actualization simply as a result of maturation and life experience or possibly because of repeated testing.

Though the results did exhibit only very limited support for the hypotheses as stated, the trends of the statistical results and the implications of the interviews seemed to lend some support to the supposition that both the volunteer and the skills training conditions can be valuable growth experiences for college students who volunteer. Replication of the present study using younger college students and a control group of students who expressed no interest in volunteering may help clarify some of the difficulties between results of the present study and previous investigations.

In much of the previous research on volunteers in mental health settings, interest in and intent to volunteer were not controlled for, and, subsequently, created a confound, setting up an interaction between selection and the experimental condition (i.e., volunteering). This study attempted to control for this by designating as the control group individuals who had expressed an interest in volunteer-

ing but had not been chosen. This was intended to insure greater comparability across conditions, but may have made the various experimental and control conditions so similar that the personality measures were not sufficiently powerful to differentiate between groups in many cases, thus rendering less significant group differences especially as compared to other investigations. Perhaps interest and intent are integral and/or preliminary conditions for the volunteer experience to be beneficial at all, and should not be considered a confound that needs to be controlled for. In an attempt to examine this possibility, future investigations in volunteer research may want to use two control groups, one that expresses such interest and intent and one that does not.

Another direction for future research would be to study college students as volunteers with a less severely disturbed population (e.g., learning disabled). The severity of disturbance of the children in this study resulted in an increase in externality for the volunteers, perhaps as a function of the frustrating effects of working with such children.

A final suggestion for future research would be to examine student volunteers in a more structured situation where more formal and consistent support systems were part of the volunteer experience.

SUMMARY

This study has attempted to further investigate change in college students who volunteer to work with emotionally disturbed children.

The personality constructs chosen to be investigated were self-concept and locus of control. The two instruments selected to measure self-concept were the Tennessee Self-Concept Scale and the Personal Orientation Inventory. The instruments chosen to measure locus of control were Rotter's Locus of Control Scale, the Northwestern Personality Inventory, and the Epistemic Orientation Inventory. These latter two are unpublished research tools which are either relatively new and/or on which little validation research had been conducted.

In addition, the author also chose to investigate the effects that a human skills training course would have on an individual's self-concept and locus of control.

The subjects consisted of 26 males and 26 females, all undergraduates of Loyola University. These were either students who had expressed an interest in and an intent to volunteer at the Loyola Day School for emotionally disturbed children, and/or had preregistered for a skills training course.

The experimental condition was composed of two groups. Group 1 included subjects who were both volunteers and also engaged in a skills training course. Group 2 included subjects who were only volunteers. The control condition also was composed of two groups. Control group 1 included students who did not express an interest in volunteering, but were engaged in a skills training course. Group 2 included subjects who were neither volunteers (though they expressed the interest and intent), nor were members of a skills training group.

Each subject was administered all five personality measures on three occasions, with an interval of 3 months between testing sessions. The subjects in the experimental condition (volunteering) were also rated by the Day School coordinators on a 5-point scale as to how well they functioned as volunteers. In addition, two subjects from each of the four conditions were interviewed three times over the course of the 6 month period.

The following hypotheses were proposed: (1) volunteers show significantly greater positive change in scores on all measures than nonvolunteers; (2) skill trained subjects show greater change in scores on all measures than nonskill trained subjects; (3) skill trained volunteers show greater change than skill trained nonvolunteers; (4) skill trained volunteers show greater change than nonskill trained volun-

teers; and, (5) skill trained nonvolunteers show greater change than nonskill trained nonvolunteers.

An analysis of variance was conducted on each measure and its subscales. Support for hypothesis 1 was equivocal, with positive findings for Rotter's Scale and negative findings on a subscale of the Epistemic Orientation Inventory. Hypothesis 2 also showed equivocal results, finding positive support from two subscales of the Personal Orientation Inventory and negative results from two measures of locus of control. Hypotheses 3 and 4 found unequivocal support on the Time ratio scales of the Personal Orientation Inventory. Finally, hypothesis 5 exhibited only negative findings on the Northwestern Personality Inventory.

The following conclusions seem warranted: in regards to locus of control, contrary to hypothesis, volunteering and skills training tend to make one adopt a more external locus of control as a result of these experiences; in regards to the variable of self-concept, minimal support was found for three of the five hypotheses, but only on the Personal Orientation Inventory. On 10 subscales of this measure, all subjects, regardless of group condition, significantly increased their scores as a function of time, leading one to the conclusion that college students who volunteer may increase in elements of self-actualization either as a result of maturation and life experience or possibly simply as a result of the effects of repeated testing.

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APPENDIX A

THE HIGHER THE SCORE THE MORE EXTERNAL THE INDIVIDUAL IS

Name: _____

Age: _____ Sex: _____

Major: _____

L-O-C QUESTIONNAIRE

Instructions:

This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of sentences lettered a or b. Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you are concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. We are interested in your own personal belief, so obviously there are no right or wrong answers.

Print your name and age and circle male or female at the top of this page. Please answer these items carefully but do not spend too much time on any one item. For each item cross out the letter of the statement which you believe to be most true. In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one you more strongly believe to be the case as far as you're concerned. Also try to answer each item independently when you are making your choice; do not be influenced by your previous choices. BE SURE YOU ANSWER ALL OF THE ITEMS.

1. a b 1. a. Children get into trouble because their parents punish them too much.
 b. The trouble with most children nowadays is that their parents are too easy with them.
2. a b 2. a. Many of the unhappy things in people's lives are partly due to bad luck.
 b. People's misfortunes result from the mistakes they make.

3. a b 3. a. One of the major reasons we have wars is because people don't take enough interest in politics.
- b. There will always be wars no matter how hard some people try to prevent them.
4. a b 4. a. In the long run people get the respect they deserve in this world.
- b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
5. a b 5. a. The idea that teachers are unfair is nonsense.
- b. Most student's don't realize the extent to which their grades are influenced by accidental happenings.
6. a b 6. a. Without the right breaks one cannot be an effective leader.
- b. Capable people who fail to become leaders have not taken advantage of their opportunities.
7. a b 7. a. No matter how hard you try some people just don't like you.
- b. People who can't get others to like them don't understand how to get along with others.
8. a b 8. a. Heredity plays the major role in determining one's personality.
- b. It is one's experiences in life which determine what they're like.
9. a b 9. a. I have often found that what is going to happen will happen.
- b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.
10. a b 10. a. In the case of the well prepared student

there is rarely if ever such a thing as an unfair test.

- b. Many times exam questions tend to be so unrelated to course work that studying is really useless.

11. a b 11. a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.

- b. Getting a good job depends mainly on being in the right place at the right time.

12. a b 12. a. The average citizen can have an influence in government decisions.

- b. This world is run by the few people in power, and there is not much the little guy can do about it.

13. a b 13. a. When I make plans, I am almost certain I can make them work.

- b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

14. a b 14. a. There are certain people who are just no good.

- b. There is some good in everybody.

15. a b 15. a. In my case getting what I want has little or nothing to do with luck.

- b. Many times we might just as well decide what to do by flipping a coin.

16. a b 16. a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.

- b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.

17. a b 17. a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.

- b. By taking an active part in political and social affairs the people can control world events.
18. a b 18. a. Most people can't realize the extent to which their lives are controlled by accidental happenings.
- b. There is really no such thing as "luck."
19. a b 19. a. One should always be willing to admit mistakes.
- b. It is usually best to cover up one's mistakes.
20. a b 20. a. It is hard to know whether or not a person really likes you.
- b. How many friends you have depends upon how nice a person you are.
21. a b 21. a. In the long run the bad things that happen to us are balanced by the good ones.
- b. Most misfortunes are the result of a lack of ability, ignorance, laziness or all three.
22. a b 22. a. With enough effort we can wipe out political corruption.
- b. It is difficult for people to have much control over the things politicians do in office.
23. a b 23. a. Sometimes I can't understand how teachers arrive at the grades they give.
- b. There is a direct connection between how hard I studied and the grades I got.
24. a b 24. a. A good leader expects people to decide for themselves what they should do.
- b. A good leader makes it clear to everybody what their jobs are.

25. a b 25. a. Many times I feel that I have little influence over the things that happen to me.
- b. It is impossible for me to believe that chance or luck plays an important role in my life.
26. a b 26. a. People are lonely because they don't try to be friendly.
- b. There's not much use in trying too hard to please people, if they like you, they like you.
27. a b 27. a. There is too much emphasis on athletics in high school.
- b. Team sports are an excellent way to build character.
28. a b 28. a. What happens to me is my own doing.
- b. Sometimes I feel that I don't have enough control over the direction my life is taking.
29. a b 29. a. Most of the time I can't understand why politicians behave the way they do.
- b. In the long run people are responsible for bad government on a national as well as local level.

APPENDIX B

THE HIGHER THE SCORE THE MORE INTERNAL THE INDIVIDUAL IS

NPI

Name _____ Age _____ Major _____

Date _____ Sex _____

Please read the following statements carefully. Indicate whether you agree, sometimes agree, sometimes disagree or disagree with each statement by filling in your choice. Be sure to answer the way you really feel and not the way you think you ought to respond. Please answer every question. Check to be certain you haven't skipped any.

- | | | | | |
|--|------------|-------------------------|----------------------------|---------------|
| 1. I have a good chance to change the unpleasant things in my life if I work at it. | 4
agree | 3
sometimes
agree | 2
sometimes
disagree | 1
disagree |
| 2. I don't have any self-confidence | 1
agree | 2
sometimes
agree | 3
sometimes
disagree | 4
disagree |
| 3. Life is nothing more than a lottery. | 1
agree | 2
sometimes
agree | 3
sometimes
disagree | 4
disagree |
| 4. Most people do not feel that their decisions could be made just as well by flipping a coin. | 4
agree | 3
sometimes
agree | 2
sometimes
disagree | 1
disagree |
| 5. When my work turns out poorly it was not because it was doomed from the start. | 4
agree | 3
sometimes
agree | 2
sometimes
disagree | 1
disagree |
| 6. People are not able to determine the direction of their lives. | 1
agree | 2
sometimes
agree | 3
sometimes
disagree | 4
disagree |

7. There is very little that I can do to change the way people feel about me.	1 agree	2 sometimes agree	3 sometimes disagree	4 disagree
8. The quality of my work is unrelated to how much effort I make.	1 agree	2 sometimes agree	3 sometimes disagree	4 disagree
9. The good things that happen to me are a matter of fate.	1 agree	2 sometimes agree	3 sometimes disagree	4 disagree
10. I believe that chance has nothing to do with how happy I am.	4 agree	3 sometimes agree	2 sometimes disagree	1 disagree
11. I have very little influence over the bad things that happen to me.	1 agree	2 sometimes agree	3 sometimes disagree	4 disagree
12. People can be sure that they have done well only if someone praises them.	1 agree	2 sometimes agree	3 sometimes disagree	4 disagree
13. People don't get bad grades in school because of bad luck.	4 agree	3 sometimes agree	2 sometimes disagree	1 disagree
14. When I don't succeed I feel I was just destined to fail.	1 agree	2 sometimes agree	3 sometimes disagree	4 disagree
15. Bad luck accounts for the bad things that happen to most people.	1 agree	2 sometimes agree	3 sometimes disagree	4 disagree

- | | | | | |
|--|------------|-------------------------|----------------------------|---------------|
| 16. Fate does not determine my accomplishments. | 4
agree | 3
sometimes
agree | 2
sometimes
disagree | 1
disagree |
| 17. People have the power to determine the direction of their lives. | 4
agree | 3
sometimes
agree | 2
sometimes
disagree | 1
disagree |
| 18. I have a sense of accomplishment when I finish a difficult job even if no one knows how much effort it took. | 4
agree | 3
sometimes
agree | 2
sometimes
disagree | 1
disagree |
| 19. I never make plans for the future because I can never make them turn out the way I want. | 1
agree | 2
sometimes
agree | 3
sometimes
disagree | 4
disagree |
| 20. Chance has nothing to do with people not liking me. | 4
agree | 3
sometimes
agree | 2
sometimes
disagree | 1
disagree |

APPENDIX C

EPISTEMIC ORIENTATION INVENTORY

Students attend school and approach learning for different reasons and in different ways. On the following pages are statements which, to some degree, may apply to your learning needs and behavior. You are asked to rate how important each of these statements is for you right now. Answers are to be placed on the separate answer sheet.

First, fill out the information requested of you on the answer sheet. Do not omit information unless specifically requested to do so.

Next, read each statement in the test booklet carefully and then circle the number on the answer sheet which best reflects how important that statement is for you at this time. The meaning of the numbers are:

- 1--this statement is of very little importance to me
- 2--this statement is of some but not much importance to me
- 3--this statement is rather important to me
- 4--this statement is very important to me
- 5--this statement is extremely important to me

The higher the number, the greater the importance you attach to the statement.

Do not leave any items blank!

This inventory is designed for research purposes only.

John R. Shack, Ph.D.
Loyola University--Chicago
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1. To satisfy my intellectual curiosity
2. To know what an instructor thinks is most important to learn for an exam.
3. To learn more about myself
4. To take complete lecture notes
5. To always be prepared for class
6. To have freedom to explore and develop some of my own ideas
7. To be introduced to new ways of viewing the world.
8. To be able to explore new experiences
9. To have an instructor who meets my questions with more questions rather than answers
10. To have grades as an essential part of my education
11. To have assignments which are ambiguous
12. To prepare myself for a future profession
13. To emphasize my lecture notes in studying for examinations
14. To know where I fit on the class curve
15. To be able to show what I have learned
16. To explore my intellectual potential
17. To have more time to think about what I am learning
18. To meet important people with connections
19. To have my classes at convenient times
20. To be able to find more important work in the future
21. To be concerned with the practical usefulness of a major field of study
22. To have objective rather than essay-type examinations
23. To have a school library which is not too inaccessible
24. To have a decent place to study
25. To have a fund of information and ideas within easy reach
26. To do serious extra-curricular reading
27. To have research papers
28. To have instructors who are clear speakers
29. To discover how an instructor grades before taking his course
30. To have inter-departmental course offerings
31. To seldom cram for exams
32. To discover for me what might be a meaningful way of life
33. To not be bothered with choosing a major
34. To have lecture rooms with good acoustics
35. To learn simply because I enjoy it

36. To say the appropriate thing in class
37. To have an instructor praise me for my work
38. To increase my future earning potential
39. To have a complete and comprehensive library at my disposal
40. To follow the instructor's point of view when writing an examination even when it is at variance with other sources
41. To be allowed to make my own discoveries in a course
42. To go to hear guest lecturers in diverse fields
43. To have a workable class schedule
44. To have the pressure of deadlines in order to get work done
45. To have well-lighted and ventillated classrooms
46. To have an optimal balance in emphasis between intellectual, social and physical development
47. To assure my security in the future
48. To develop my own system of personal values
49. To learn more about how to take examinations
50. To probe the mysteries of the universe
51. To meet the challenge of competition
52. To be given responsibility for my own intellectual growth
53. To anticipate the instructor's exam questions
54. To depend on my instructor for project and paper guidance
55. To write papers which are original even if they do not meet the instructor's requirements
56. To please and fulfill the expectations of parents, teachers, and others who have encouraged me
57. To help me be recognized as an authority in some job, profession, or field of specialization
58. To understand what my instructor expects of me
59. To be able to accomplish something of great significance
60. To be able to discourse with and discover the ideas of interesting people
61. To learn something about many different fields
62. To interact with people who have like ambitions and values
63. To be told what to study
64. To take courses which emphasize discussion and dialogue rather than lectures
65. To have exams which require thinking for yourself

66. To make time to explore new areas of interest
67. To have freedom to select my own topic for research
68. To get the grade I expected
69. To have instructors who emphasize self-discovery
70. To have an appropriate atmosphere for learning

71. To use College Outline Series material
72. To have a college or university administration which is fair in its dealings with students
73. To take more time on a term paper even if it means getting the paper in late
74. To leave curriculum developments to those who know what they are doing
75. To work harder for an instructor who is a tough marker

EPISTEMIC ORIENTATION INVENTORY--Answer Sheet

Name _____ Date _____

Age _____ Sex _____ Year in School _____

School or College _____ Anticipated Major _____

1. 1 2 3 4 5 36. 1 2 3 4 5
 2. 1 2 3 4 5 37. 1 2 3 4 5
 3. 1 2 3 4 5 38. 1 2 3 4 5
 4. 1 2 3 4 5 39. 1 2 3 4 5
 5. 1 2 3 4 5 40. 1 2 3 4 5

6. 1 2 3 4 5 41. 1 2 3 4 5
 7. 1 2 3 4 5 42. 1 2 3 4 5
 8. 1 2 3 4 5 43. 1 2 3 4 5
 9. 1 2 3 4 5 44. 1 2 3 4 5
 10. 1 2 3 4 5 45. 1 2 3 4 5

11. 1 2 3 4 5 46. 1 2 3 4 5
 12. 1 2 3 4 5 47. 1 2 3 4 5
 13. 1 2 3 4 5 48. 1 2 3 4 5
 14. 1 2 3 4 5 49. 1 2 3 4 5
 15. 1 2 3 4 5 50. 1 2 3 4 5

16. 1 2 3 4 5 51. 1 2 3 4 5
 17. 1 2 3 4 5 52. 1 2 3 4 5
 18. 1 2 3 4 5 53. 1 2 3 4 5
 19. 1 2 3 4 5 54. 1 2 3 4 5
 20. 1 2 3 4 5 55. 1 2 3 4 5

21. 1 2 3 4 5 56. 1 2 3 4 5
 22. 1 2 3 4 5 57. 1 2 3 4 5
 23. 1 2 3 4 5 58. 1 2 3 4 5
 24. 1 2 3 4 5 59. 1 2 3 4 5
 25. 1 2 3 4 5 60. 1 2 3 4 5

26. 1 2 3 4 5 61. 1 2 3 4 5
 27. 1 2 3 4 5 62. 1 2 3 4 5
 28. 1 2 3 4 5 63. 1 2 3 4 5
 29. 1 2 3 4 5 64. 1 2 3 4 5
 30. 1 2 3 4 5 65. 1 2 3 4 5

31. 1 2 3 4 5 66. 1 2 3 4 5
 32. 1 2 3 4 5 67. 1 2 3 4 5
 33. 1 2 3 4 5 68. 1 2 3 4 5
 34. 1 2 3 4 5 69. 1 2 3 4 5
 35. 1 2 3 4 5 70. 1 2 3 4 5

71. 1 2 3 4 5
 72. 1 2 3 4 5
 73. 1 2 3 4 5
 74. 1 2 3 4 5
 75. 1 2 3 4 5

Key: 1--this statement
 is of little
 importance to
 me

2--this statement
 is of some but
 not much impor-
 tance to me

3--this statement
 is rather im-
 portant to me

4--this statement
 is very important
 to me

5--this statement
 is extremely
 important to me

Do Not Write in This
 Space

Gd _____
 Fo _____
 Tot.E _____
 C _____
 R _____
 Se _____
 Tot.I _____
 RSC _____

APPENDIX D

COORDINATOR'S RATING SCALE

INSTRUCTIONS

Could you please take a few minutes of your time and rate the volunteers you worked with during the past year. Please designate how long you worked with each volunteer and how you would rate this individual based on your experiences with him/her. Some of you may not have worked with each volunteer in your room due to conflicting schedules. In that case, please try to rate them from general impression, experience in volunteer meetings, or feedback others have reported about them.

Your name _____ Room _____

Volunteer's name	Period you worked with volunteer	Hours per week	Basis of judgment	Volunteer Rating				
				1 poor	2 fair	3 good	4 very good	5 excellent
example								
John Doe	six months	6	work experience			x		

APPENDIX E

INSTRUCTIONS

You will notice that all inventories in this folder have an alphabetical letter printed in the right hand corner. This is for research purposes only. Do not complete the inventories in alphabetical order. COMPLETE THEM IN THE ORDER THEY APPEAR IN THE FOLDER!

Instructions for each specific inventory follows:

A. Northwestern Personality Inventory

Follow instructions printed on top of page 1.

B. Tennessee Self-Concept Scale

Because of the complex format of the test booklet be sure that the number of the inventory item is the same as the number on the answer form.

C. Personal Orientation Inventory

Follow instructions on the front of page 1.

D. Locus of Control Scale

Follow instructions on the front of page 1.

E. Epistemic Orientation Inventory

Follow instructions on the front of page 1.

APPROVAL SHEET

The dissertation submitted by Patrick McKian has been read and approved by the following Committee:

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The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is not given final approval by the Committee with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

4-25-77
Date


Director's Signature