1975

A Comparison of Volunteers vs. Non-Volunteers and the Effects of the Volunteer Experience on Self-Actualization and Social Intelligence

Jeanne Kerschner
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A COMPARISON OF VOLUNTEERS VS. NON-VOLUNTEERS
AND THE EFFECTS OF THE VOLUNTEER EXPERIENCE ON
SELF-ACTUALIZATION AND SOCIAL INTELLIGENCE

by

Jeanne Kerschmer

A Thesis Submitted to the Faculty of the Graduate School
of Loyola University in Partial Fulfillment
of the Requirements for the Degree of
Master of Arts
January
1973
Jeanne Kerschner, nee Sieber, was born on April 29, 1945 in Geneva, Illinois. She lived with her parents in Glen Ellyn, a suburb west of Chicago. She attended the Glen Ellyn public schools and Glenbard West High School. She graduated from high school in June, 1963. She went to the University of Denver for one year and then transferred to North Central College in Naperville, Illinois. She graduated magna cum laude with a B.A. in psychology on January 1, 1969. She also was a member of the NCC Honor Society.

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She married Lawrence Kerschner on December 21, 1969. They currently have no children. Mrs. Kerschner is presently employed part-time at the Loyola Child Guidance Center while completing the requirements for a doctorate degree in clinical psychology.
Acknowledgements

I wish to express my sincere appreciation to the Loyola Chapter of VIP for their help and especially to the VIP volunteers at the Loyola Day School who were so willing to take the time to participate in this study. To Dr. John Shack, my Thesis Committee Chairman, goes my special gratitude for his ever-ready supply of time, ideas, information, and encouragement without which I could have never have put this project together. Thanks are also extended to Dr. James Johnson, my Thesis Committee Member, who was very helpful in contributing ideas on format, statistical analysis, and reporting. To Bob Duncan, VIP project manager, go my thanks for his patience and energy in helping me collect the experimental data. I am especially indebted to Joe Fischer who gave freely of his time to act as my assistant in data collection and analysis just to help a friend finish her thesis. To Mrs. Janice Nelson I am indebted for her invaluable help in organizing materials and for typing my thesis proposal. To Mrs. Doris Lenz I am grateful for her suggestions and efficient typing in preparing the final draft of my thesis. And finally I wish to express my gratitude to my husband Larry who for over a year listened, made suggestions, and then organized and ran all the experimental data through the Loyola computer. Without his day to day support I would never have gotten through it all.
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Chapter I
Purpose

Traditionally in America older women have formed the main body of social service volunteers. More recently college students have been attracted to this service type of activism because of their increasing awareness of social problems. In the mental health field all types of indigenous workers and non-professionals have been utilized to help bridge the gap between the number of workers available and the number of workers needed in mental health. There are other reasons for the use of non-professional volunteers. There has been a notorious lack of success by mental health professionals in their work with several populations: the poor, drug abusers, alcoholics, and juvenile delinquents. But Blau (1969) reported that nonprofessionals do seem to have a good deal of success in working with these groups.

Observers have postulated many unique characteristics of college students which make them especially desirable as mental health workers. Greenblatt and Kantor (1962a) suggested that college students are more successful than "volunteers of a more senior station in life," that is, ladies auxiliary and the traditional friends of mental hospitals, because they manifest less resistance to and more motivation for face-to-face contact with patients. Adults tend to restrict their service by selecting duties that keep them some distance from the patients, but the college students plunge into the ward and usually are able to
make direct contact with patients. Also, student volunteers appear to have a sense of personal conviction to their work that the staff or other volunteer workers cannot duplicate. Umbarger, Dalsimer, Morrison and Breggin (1962) suggested that the reason for student success with patients results primarily from three factors. First, they feel an exhilaration at finding a worthwhile cause. Second, they feel they are engaged in a struggle against mental illness, whose toll can be seen in mental hospitals. Finally, they feel they are involved in a novel attempt to help others.

Mitchell (1966) posited that in working with children "college students seem to have a particular talent for finding the child in his own world (p. 311)." He also suggested that the casual dress of the college students, their idealism, and their spontaneity and enthusiasm are all features which enhance the effectiveness of their role. Rosenbaum (1966) reasoned that college students are successful because mental hospital populations who have been rejected by our culture "will respond to young, vibrant people who are humane and extend warmth (p. 294)."

There are other similarities, such as residing in a developmental institution and seeking life changes, which may create a bond between college students and mental patients. These could constitute a further basis for the reported success of college students working with troubled individuals. Keniston
(1967) pointed out that both college students and psychotic patients reside in "developmental institutions," the common characteristics of which include stimulating, supporting, and confirming the development of each resident. Sanford (1962) also compared college students to mental hospital patients in that they are both seeking personality change.

The fact that there is a reduction of social distance between college students and those seeking help may facilitate the establishment of a working relationship between the therapeutic agent and patient. Certainly, the distressed patient might expect more empathy from a college student who, like himself, is struggling with his identity, competing for financial and employment security, and who also sees the locus of control outside himself. The professional therapist, on the other hand, may appear as though he has attained identity, security, and control of self and thus cannot recall the intensity of his own struggle. If, as some authors suggest (Rogers, 1957, Truax & Wargo, 1966), accurate empathy is the single most important therapist characteristic in determining outcome of therapy, then the college student automatically has an advantage over his professional counterparts because of his greater proximity in status to patients. Also, if feeling closer to the therapist in terms of social status does facilitate "instant felt empathy" then college students should be most effective in working with other college students, adolescents, and children.
Because they cannot rely on professional training or the professional facade, college students are forced to use a straightforward, commonsense approach. Perhaps the fresh approach of these young people has an effect on depressed or disturbed individuals that the trained professionals have difficulty duplicating. Rogers (1957) has postulated that theoretical wisdom is not a necessary ingredient for a helping relationship. It may be that theoretical wisdom is actually detrimental to some therapeutic encounters because it restrains and constrains the variety of approaches available to the therapist. College students, on the other hand, are free of this theoretical constraint and are less inhibited in trying new approaches. As a result of their ignorance they may uncover effective new approaches considered inappropriate or too illogical by professionals. It may be possible to learn from the fresh approach of untrained college students.

Reiff and Riessman (1965) have postulated that greater flexibility in terms of appropriate behavior on the part of the nonprofessional may be a special asset. Whereas a college student may take his charge to the zoo or be invited to a party by the patient, the professional, by virtue of his role prescription would not engage in these activities.

A final advantage of using college students as therapeutic agents and a further reason for their apparent success particularly in settings outside the hospital is that there may be less
stigma attached for a parent sending his child to a college stu-
dent than to a psychologist, even though the therapeutic aim may
be the same. In other words, it appears that because of their
unique characteristics and, in some cases, because of their lack
of training, college students have much to offer as volunteers
in the field of mental health. Even if they possessed none of
these desirable characteristics, the discovery of a large
untapped pool of volunteer workers in mental health would be
welcome news.

The selection, training, and effectiveness of mental
health volunteers is an area of research which is currently
receiving more attention. However, the effect of their volunteer
experience on the volunteers themselves is an area which has been
largely neglected by researchers. It would seem that college
students, because of their developmental status on the brink of
adulthood, would be especially affected as mental health volun-
teers.

The present study proposes to investigate the differences
between volunteers and non-volunteers before and after volunteer
experience with a volunteer organization.
Chapter II
Review of the Related Literature

The relevant literature will be reviewed in this section in two parts. In part one the author will review literature dealing with the differences between volunteers and non-volunteers to examine the basis for formulating hypotheses for this study. In part two the author will deal with college students as volunteers in the mental health field and changes in these volunteers as a result of their experiences to further establish hypotheses for this study.

Volunteers versus non-volunteers: The basic research done in this area is not vast and can be summarized quickly.

The earliest work in this general area is that of Norman (1948). In his review of research dealing with differences between respondents and nonrespondents to mailed questionnaires he stated that those who respond to a mail questionnaire have been found almost universally to differ radically from those who do not reply. Respondents were found to be more ego-involved in the area investigated by the questionnaire, more intelligent, more articulate, better educated, and more likely to be members of medium income groups than nonrespondents.

Wallin (1949) reported that engaged couples who volunteered for a study of factors associated with future marital success differed from both nonvolunteers and the total sample of volunteers and nonvolunteers in a likelihood of successful marriage.
He compared the groups for age, religious affiliation, education, ratings by friends on social and political ideas and poise. Though the differences were not statistically significant, volunteers tended to be better educated, politically conservative, less likely to be Catholic, and better poised than nonvolunteers. Kinsey, Pomeroy and Martin (1948) found male volunteers for interviews in the area of sexual behavior reported a greater frequency of total sexual outlet than male nonvolunteers. Maslow (1940) reported that female volunteers for an inquiry into sexual attitudes and behavior scored higher than nonvolunteers on dominance rating. In a similar study with Sakoda, they found volunteers were predominantly high in self-esteem and those high in self-esteem score differed considerably from those low in self-esteem score in their sexual behavior. Maslow and Sakoda (1952) have drawn the important conclusion that "it is probable that self-esteem score can be used as a test variable to check volunteer error, not only in the study of sex, but also in the studies of other unconventional forms of behavior (p. 26)."

LaSagna and Von Felsinger (1954) in the course of certain pharmacological studies on 56 healthy young male volunteers obtained Rorschach tests and psychological interviews. All received one or more drugs and were paid for volunteering. An examination of the psychological data revealed an unusually high incidence of severe maladjustment which raised the question of the representativeness of their sample. An examination of the
reasons, though of secondary importance, were more marked than the primary drug effects. Their conclusion is that volunteers may differ markedly from nonvolunteers in a number of important respects and generalizations based on volunteer data should be made cautiously. Regardless of whether volunteers can be categorized as normal, the personality of such subjects and their reasons for volunteering may be important determinants of their responses to an experimental situation. Richards (1960) used 18 undergraduate students as volunteers for research on a drug (mescaline) matched with a control group for sex and class. Rorschach, TAT, and figure-drawings were evaluated. Volunteers were less repressive of their anxiety, more given to dealing with it by means of intellectualization and entering psychotherapy than were nonvolunteers. This study supplements the position that inferences drawn from volunteers must be made with extreme caution.

Brower (1948) used a task of visual-motor conflict as a basis of comparing volunteer college students with nonvolunteers and found significant differences. He concludes that the data suggest differential motivation may be operative in different groups of college students used for research and points out that psychological data derived from the university lab represent widely heterogenous and skewed groups.

Bair and Gallagher (1960) used naval aviation cadets as subjects in trying to relate willingness to volunteer for
dangerous tasks with other variables like personality as measured by the MMPI, general intelligence, mechanical comprehension, and flight aptitude ratings. They found that far from being seriously disturbed the volunteers were actually superior in many respects to nonvolunteers and the volunteers also excelled in leadership qualities.

Myers (1964) reported that 73 percent of a sample of enlisted U.S. Army personnel volunteered to participate in 96 hours of sensory deprivation for which there was no monetary reward. The result of a large battery of tests including the MMPI and biographical inventory revealed that the volunteer has a sounder and more stable personality than the nonvolunteer.

Schultz (1967) also attempted to determine the differences between volunteers and nonvolunteers for a sensory deprivation study for which the college students were paid. They had 81 volunteers and the Cattell 16PF test showed significant trends. Volunteers were found to be emotionally mature, stable, and adventurous. Dohrenwend, Feldstein, Plosky and Schmeidler (1967) studied student volunteers for sensory deprivation with statements designed to arouse anxiety. They used a psychiatric interview measuring 22 symptoms before and after sensory deprivation experience. Their results show that first-borns experienced more anxiety than later-born, indicating that it was an aversive situation for first-born despite their having chosen to participate.
Volunteering behavior and birth-order has been studied also by other researchers. Copra and Dittes (1962) found first-born students volunteer for small group experiments in greater number than later-born. A similar finding is reported by Varela (1964) and Snedfeld (1964).

Rosenbaum (1956) treats volunteering itself as a dependent response, a function of the type of appeal made to the subject, background factors such as time, place and response of others present, and personality of the invitee. He was able to demonstrate the significance of the first two, but he also surmised that personality differences would account for a sizeable portion of the variance.

The purpose of Rosen (1951) was to investigate the presence of consistent personality and attitude differences between student volunteers and nonvolunteers for psychological experiments. He compared volunteers and nonvolunteers by means of the MMPI, the Strong Vocational Interest Blank (SVIB), grade-point average, and time taken to complete the attitude questionnaire. He found evidence of considerable consistency in differences between volunteers and nonvolunteers. Volunteers showed a greater tendency than nonvolunteers to admission of discouragement, anxieties and inadequacies, and some tendency toward defensiveness. A lack of significant differences on a number of variables, e.g., grades, vocational interest, seems to lend support to the hypothesis that volunteers differ from nonvolunteers on
psychological variables to a greater extent than they do on sociological variables.

Riggs and Kaess (1955) were chiefly concerned with the personality differences between student volunteers and nonvolunteers for psychological experiments. All were given the personality test Guilford's Inventory of Factors, the Allport-Vernon Lindzey Study of Values Test, and the verbal projective sentence completion test, and the TAT. Their comparison showed volunteers to be introversive in thinking and emotionally more moody. On a number of other dimensions like values and the TAT, no reliable differences appeared. Their original hypothesis that "volunteers would be characterized by concern over and difficulty with personal adjustment, by anxiety and by a taste for excitement, received some support (p. 238)."

Newman (1957) compared student volunteers and nonvolunteers for personality and perception research by using the Edwards Personal Preference Schedule (EPPS) and Form 40/45 of the F (Fascism) Scale. He found many significant differences and concluded that volunteers and nonvolunteers are not sufficiently equal to justify the use of volunteers as representative of the total population.

The personality characteristics of volunteers and nonvolunteers were examined for four different experimental situations by Martin and Marcuse (1958). A request for volunteers to participate in one of four experimental situations dealing with
learning, personality, attitude to sex, and hypnosis was made to 400 college students. Reliability of volunteering behavior by test-retest methods after one week ranged from .67 to .91 for the different situations. No significant differences were found in any comparisons between volunteers and nonvolunteers for the experimental situations of learning, sex, or personality on the measures of the Taylor Manifest Anxiety Scale (MAS), the Levinson E (Ethnocentrism) Scale, and the Bernreuter Personality Inventory. For the hypnosis situation there were significant differences on two variables. The general conclusion of this investigation was that there are personality differences between volunteers and nonvolunteers associated with different types of volunteering situations and that generalizations made from biased samples can obviously be misleading. Himelstein (1956) using the Taylor MAS found no significant difference between student volunteers and nonvolunteers for psychological experiments, although nonvolunteers tended to be high in anxiety. Scheler (1959) asked students to volunteer for a study of anxiety and also found that volunteers were significantly less anxious than nonvolunteers on scores on the IPAT anxiety scale. Howe (1960) invited students to participate, for cash, in experiments involving either a weak or a moderately strong electric shock and compared student volunteers and nonvolunteers for the two experiments on four measures of anxiety, including the Taylor MAS. The anxiety measures failed to discriminate
between volunteers and nonvolunteers. Similar results were obtained by Levitt, Lubin and Zuckerman (1959) who asked student nurses to volunteer as paid participants for a hypnosis experiment, using the TAT. The study failed to show any significant difference between the attitudes of volunteers and nonvolunteers.

Efran and Boylin (1967) studied volunteer subjects for group discussion in an introductory psychology class in terms of social desirability. Their results show that volunteers have high self-esteem and engage in ego-defensive behavior by choosing the less prominent role. Volunteers were, thus, higher in degree of social risk than nonvolunteers.

An investigation of the 44 student volunteers for a leaderless group discussion experiment as compared with 51 nonvolunteers was undertaken by Frye and Adams (1959). After the discussion the subjects were given the EPPS and there was no significant difference found on the personality variables as measured by the EPPS.

Kaess and Long (1954) in an effort to investigate the effectiveness of vocational guidance compared student volunteers with those who were required to participate and found several differences. Volunteers found the guidance program more effective than the others. Mendelsohn and Kirk (1962) compared students who seek counseling and found they are more intuitive and tend more toward the introversive side.

Sheridan and Shack (1970) studied 81 college students who were given an opportunity to volunteer to participate in seven
weekly sessions of sensitivity training, of whom 28 percent did volunteer. On the Personal Orientation Inventory (POI) and the Epistemic Orientation Inventory (EOI) the volunteers were significantly more accepting of themselves and significantly less motivationally dependent on their environment than nonvolunteers. The volunteers also tended to be more self-actualized than the nonvolunteers. Guinan and Foulds (1970) investigated changes which occur among a group of college students following a voluntary 30-hour weekend marathon sensitivity experience, using the POI. Results were compared with those obtained from a selected control sample volunteering to be in "an experiment." In comparing the pretest mean scores of the experimental group with the control group they found that students volunteering for the marathon experiences were less self-actualized than those volunteering to be in "an experiment." The volunteers for the marathon described as being more other-directed and less spontaneous, as having lower self-regard and self-acceptance, and as having greater difficulty in establishing interpersonal relationships.

Corotto (1963a) asked 175 male alcoholic patients in a state hospital to volunteer for continued treatment. The CPI was used to measure the personality differences between volunteers and nonvolunteers. His findings indicate that volunteers tend to be relatively less well adjusted and the nonvolunteers achieved significantly higher scores on 7 of the 18 CPI scales. Corotto (1963b) also compared volunteers for commitments by using the
CPI and found nonvolunteers had higher mean scores than volunteers.

Hersch, Kulik and Scheibe (1969) compared students asked to volunteer as mental health workers by means of the CPI, the SVIB, and life-history data. Volunteers were found to be significantly higher on the CPI score, indicating better adjustment than nonvolunteer students.

Knapp and Holzberg (1964) compared a group of 85 college students volunteering for service as Companions to chronically ill mental 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. In a later study, the volunteers were also differentiated from the nonvolunteers on academic variables such as their major area of study, frequency of disciplinary action, and fraternity affiliations (Holzberg, Knapp & Turner, 1967).

Bell (1962) reviewed the literature regarding personality characteristics of volunteers for psychological studies under five headings: unconventionality, adjustment, anxiety, social extroversion, and need achievement. He found volunteers tend to be less conventional than nonvolunteers; for certain experimental situations volunteers tend to be less well-adjusted than
nonvolunteers. Regarding relation of volunteering to anxiety, there was some inconsistency. The amount of evidence for sociability-unsociability of volunteers was not great, but volunteers tend to be less socially extroverted than nonvolunteers. There were certain studies indicating that volunteers are higher in Achievement than nonvolunteers (Lazarus, 1956; McClelland, 1958).

A review of the above studies indicates that volunteers and nonvolunteers have been compared in widely different situations. One consistent result is that volunteers and nonvolunteers do differ and seem to have a different psychological make-up, except in the studies of Frye and Adams (1959) and Levitt, et al. (1959). The differences found between volunteers and nonvolunteers seem to be specific to the situation under which they are studied. While some researchers have found volunteers to be psychologically normal, healthy and sounder (Bair & Gallagher, 1960; Hersch, et al., 1969; Knapp & Holzberg, 1964; Myers, 1964; Richards, 1960; Schultz, 1967; Sheridan & Shack, 1970), others have found volunteers to be emotionally sick and not as well-adjusted as those who did not volunteer (Corotto, 1963a, 1963b; Guinan & Foulds, 1970; LaSagna & Von Felsinger, 1954; Riggs & Kaess, 1955; Rosen, 1951). The instruments used are also varied and hence the lack of consistency as regards the dimensions on which they differ. Among the personality tests, the MMPI (Frye & Adams, 1959; Myers, 1964; Rosen, 1951),
the CPI (Corotto, 1963a, 1963b; Hersch, et al., 1969) and the EPPS (Frye & Adams, 1959; Newman, 1957), and the POI (Guinan & Foulds, 1970; Sheridan & Shack, 1970) have been used more than some other tests. Projective tests like the TAT have also been used in volunteer vs. nonvolunteer research (Levitt, et al., 1959; Richard, 1960; Riggs & Kaess, 1955). Most all the studies reviewed have used college students as Ss except Wallin (1949) who used engaged couples as Ss, Bair and Gallagher (1960) and Myers (1964) who used navy and army personnel as Ss, and Corotto (1963a, 1963b) who used alcoholic patients as Ss. The experimental situations investigated by many researchers are sex-attitudes (Kinsey, Pomeroy & Martin, 1948; Martin & Marcuse, 1958; Maslow, 1940; Maslow & Sakoda, 1952), sensory deprivation (Dohrenwend, et al., 1967; Myers, 1964; Schultz, 1967) and dangerous tasks (Bair & Gallagher, 1960; Howe, 1960), drug research (LaSagna & Von Felsinger, 1954; Richard, 1960), group discussion (Efran & Boylin, 1967; Frye & Adams, 1959), guidance or counseling (Kaess & Long, 1954; mendelsohn & Kirk, 1962) hypnosis (Levitt, et al., 1959; Martin & Marcuse, 1958), sensitivity training (Guinan & Fould, 1970; Sheridan & Shack, 1970), and mental health work (Hersch, et al., 1969; Holzberg, et al., 1967; Knapp & Holzberg, 1964).

Some researchers have also studied sociological variables and though no significant differences are noted, one particular variable has received more attention than the others, namely

There is no study concerning volunteers for work with emotionally disturbed children. However Hersch, et al. (1969) found that college students who volunteer as mental health workers do show better personality adjustment than nonvolunteers. In addition Knapp and Holzberg (1964) and Holzberg, et al. (1967) found student volunteers for mental health work are differentiated from nonvolunteers, showing more interpersonal concern and better academic functioning. Most of the other studies showed consistent differences between volunteers and nonvolunteers, although the direction of these differences varied according to the experimental situation.

**College students as volunteers in the mental health field:**

This study is also interested in the college student as a volunteer in mental health settings. This is a relatively new area of research and is represented by few studies.

Lawton and Lipton (1963) reported on a project at Morristown State Hospital where six college students were employed full-time. No training was given, but the students were instructed to devote all their efforts to creating highly personal relationships with individual patients. Based upon subjective reports by the students, positive changes were noted in individual patients.

Poser's (1966) now classic study was designed to compare
the effect of professional and untrained therapists. The untrained therapists were 11 college girls as well as two inpatients, none of whom had training in psychology. The professional therapists included psychiatrists, psychiatric social workers, and occupational therapists. Poser divided 343 male chronic schizophrenic patients into groups of 10 with each group matched as closely as possible with every other unit in terms of patient age, severity of illness, and length of hospitalization. Each therapist was randomly assigned and met with his or her group for one hour each day, five days a week, for a period of five months. Both the trained and untrained therapists were free to conduct their therapy sessions as they wished. Results were interpreted using the difference in pretherapy and post-therapy scores on six different psychological tests. It was found that the college students achieved slightly better results than the professional mental health workers doing group therapy with similar patients.

Spoerl (1968) reported on students from the University of Washington who volunteered to work on the psychiatric service of the University Hospital. In order to capitalize on the student spontaneity and imagination, no instructions were given except that the volunteers were to begin their relationship with patients on a peer basis. Volunteers could work with either individuals or groups. No objective evaluation of the student volunteer project on the patients is available, but questionnaires
were given the ward staff and patients, and written reports were solicited from the volunteers. Most of the comments on the questionnaires and written reports were favorable to such an extent that the program has been enlarged to involve more volunteers and more patients.

Kreitzer (1969) used psychology majors who received course credit for their work with hospitalized emotionally disturbed children. Training consisted of completion of course work in psychopathology as well as a weekly two-hour group supervision session. Measures included staff member rating of diminution in, or elimination of, inappropriate behavior. Many of the target behaviors were reduced or eliminated, and some of the student therapists called this the "highlight of their college experience."

Fellows and Wolpin (1969) reported a project using teenage psychology trainees in a mental hospital. Four male trainees spend four days per week working with adolescent boys in a mental hospital. They were paid $50 per month for two months. Following a week of orientation at the hospital, the trainees began individual counseling on the adolescent male unit engaging in pilot conditioning procedures and conducting group therapy. Students were on their own except for one hour a day of permissive discussion with their supervisors. Measurement in the study was primarily subjective, with the authors reporting a particularly notable effect on the patients. The boys idealized the
trainees and sought to copy whatever they did. More objectively, it is reported that a number of boys from this particular dormitory "have been placed in foster or group homes where they seem to be adjusting well, having learned some aspects of effective behavior from the trainees (p. 276)." Belz, Drehmel, and Silverstein (1967) suggested that volunteers are an essential ingredient in the ongoing functioning of a facility dedicated to the psychiatric treatment of children.

Brennan (1967) has shown that college students can be used as helpers in providing expanded mental health services for children. He pointed out that the attrition rate of children in guidance clinics has been found to be about 60 percent (Tuckerman & Lavell, 1959). Although companionship may not replace certain diagnostic and treatment services, it does represent a service that parents and children will use. He based his suggestion on the low attrition rate of 12 percent for this particular study in which he used college students as Big Brothers. He concluded that college students may facilitate and enhance treatment of children with psychiatric problems.

Mitchell (1966) has coined the term "amicatherapy" which he describes "as a form of therapeutic intervention whereby layman volunteers relate in sustained friendship roles to troubled and disturbed persons under the guidance and supervision of professionals (p. 307)." He suggested that there may be advantages to using college students in amicatherapy since college students
seem to have a particular knack for meeting the child in his own world. He postulated that this may be the case since college students are not yet irrevocably committed to the adult world. After a student is chosen to work with a particular child, he sees a supervisor for an orientation interview and is instructed simply to make friends with the child. Clinical investigation of 74 children who participated in Mitchell's program have indicated "all of the children have benefited by their relationship with the student volunteers (p. 314)."

In another study, Cowen (1968) compared the effectiveness of two interventive programs—one using housewives and the other using college students. Both groups of volunteers worked with children experiencing emotional difficulties in a school setting. Two independent rating-scale evaluations were used to measure changes in behavior of the children. Mean improvement scores of the two experimental groups combined were significantly greater than those of noncounseled control groups. However, only the group seen by the housewives was rated as significantly improved. Children seen by the college students were directionally better than controls, but the difference was not significant. These results are mitigated by the fact that the housewives were more closely screened, had two years more experience and thus knew the school setting better, and they were available more often than the college students because their schedules were more flexible.
The Department of Health, Education, and Welfare (1966) has noted that students represent a large and relatively untapped source of volunteer manpower for institutions housing juvenile delinquents. It is suggested that college students may more easily break the psychological barriers that often separate juvenile delinquents from adult workers since alienated young people usually trust another young person more than they trust adults. In the probation program at Boulder, Colorado, college students are presently serving as tutors, interviewers, and discussion leaders for the delinquents.

Gorlich (1967) further postulated that the functions of student volunteers in institutions for delinquents is threefold. First, they prove to the delinquent that someone on the outside really cares about them. Also, college students provide the young person with a role model. Finally, the students can later help spread the word about institutional needs.

Zunker and Brown (1966) supported the idea that youth-to-youth counseling may be more effective than adult-to-youth counseling. A sample of 106 college freshman received 6½ hours of academic adjustment guidance from same-sexed professional counselors. Trained under identical conditions, upperclassman student counselors gave equivalent guidance to all other beginning freshmen at Southwestern State Texas College. Student counselors also used identical guidance materials, following identical counseling activity sequences, and were provided
facilities equivalent to those used by the professional counselors. A matching sample of 80 men and 80 women were subsequently drawn from the freshmen receiving student-to-student counseling. Student counseling was found to be as effective as professional counseling on all criteria of counseling effectiveness. In fact, student counselors achieved significantly better results than did the professional counselors on the majority of variables used to measure the outcome of counseling. Student counselors also received a greater degree of acceptance from the counselees, and their counselees made significantly greater use of the information received during counseling as reflected by first semester grade point averages and residual study habits.

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 there is a continuing search for ways in which the personality development can be facilitated. Evidence suggests that working part-time in a community mental health facility may serve as an instrument of personality change. College students who work in mental hospitals, psychological clinics, or other mental health settings manifest significantly more positive changes in self-acceptance and moral judgments in sexual and aggressive acts than do control groups (Holzberg, Gewirtz & Ebner, 1964) and also greater self-understanding (Reinherz, 1962; Stollak, 1969; Umbarger, et al., 1962). Increased self-confidence
and enhanced identity formation are further personality changes effected by working in a mental health installation (Scheibe, 1965; Umbarger, et al., 1962).

Companion Program is a term used to describe situations in which college students spend a certain amount of time each week as "companions" to patients in mental hospitals. Companion Programs may be structured or unstructured, provide training or no training, give monetary remuneration or no monetary remuneration, but they share the common feature that individuals from the community are brought into regular face-to-face contact with persons with behavior problems. The first Companion Program originated in 1954 at Harvard University and provided service to the Metropolitan State Hospital (Umbarger et al., 1962). This program at Metropolitan State Hospital has been the model for subsequent Companion Programs.

The program at Metropolitan State Hospital has four areas in which the students may choose to work. First, there is the ward improvement project in which a group of students go onto a ward with severely regressed patients to paint the ward, hang pictures, hold parties, and generally interact with the patients. Secondly, there is the children's unit, where students are involved in both group and individual activities. The third area is the case-aide program in which students work in a one-to-one relationship with individual patients under professional supervision and control. Six years after the original program
had begun, the fourth work area was initiated. Wellmet, Inc. is a halfway house for patients in transition between the hospital and the outside community. All of these four programs at Metropolitan are loosely structured, provide training in the form of group meetings held once a week during the time students are entering services, and provide no monetary remuneration.

The program at Metropolitan State Hospital has been an overwhelming success. The effects on patients and student volunteers alike have been, for the most part, positive. Measures of success on the ward improvement projects were subjective and consisted of the students' accounts recording important advances in patient group behavior.

The measure of success in the case-aide program is not only more objective but also more startling. By the end of the first year, 11 of the 14 patients who had been visited by case-aide volunteers had been released from the hospital with a readmission rate of less than 28 percent. Improvements in the other three patients could be measured by their transfers to less secure wards and by other idiosyncratic achievements.

In a follow-up study of the chronic psychotic patients seen by college case-aide volunteers, Beck, Kantor, and Gelineau (1963) found that of the 120 case-aide patients who had been seen from 1954 to 1961, 37 (31%) had left the hospital while working with the students. Of the 37, 28 were still out of the hospital at the same time of the follow-up, an average of 3.4
years after they left the hospital. Seven more patients left the hospital a few months after their case-aide work and were all out at follow-up, an average of 1.2 years each. The finding that 31 percent of a group of psychotics were able to leave a chronic service after being seen by college students appears to support the assertion that the program at Metropolitan State Hospital is successful, but a firm conclusion is not possible without controls.

The measures of success of the program at Metropolitan State include not only the effects on the patients but also the effects on the student volunteers. All students in the program claimed "that they learned a great deal from the case-aide experience." Many felt that their relationship with a patient and the instruction of the group leader had taught them more about psychological theory and mental illness than had their courses at college. Some became interested in careers in mental health work. Moreover, "all claimed that they had gained insight into their own personalities and problems through their relationships with the patients and their own group (Umbarger et al., 1962, p. 54)."

Erikson (1959) suggested that the crystallization of professional goals is a major phase of the identity formation process. If this is true, work in the case-aide section of the program can be said to have facilitated identity formation. Kantor (1959) and Greenblatt and Kantor (1962b) have shown that
more than 70 percent of the students who were indefinite or undecided about career choices before participating in the case­ aide program made concrete choices in the direction of mental health work. In evaluating Kantor's findings, it should be noted that no control groups were used and also that students' career decisions during college tend to be unstable. However, Kantor's conclusion that the project influenced the career choice of participants in the direction of mental health is probably valid.

A great deal of relatively objective research, particularly concerning student development, has come out of the Connecticut Valley Companion Program which is modeled after the program at Metropolitan State. Holzberg and Gewirtz (1963) compared a group of students who volunteered for the companionship program with a control group of students who volunteered for other social service activities such as YMCA or the Big Brothers. On a questionnaire that was administered to both groups at the beginning of the academic year and again at the conclusion of that year, volunteers in the Companion Program shifted significantly in a positive direction in terms of their attitudes toward and knowledge of mental illness.

In another study at Connecticut Valley Hospital, a questionnaire measure yielded data suggesting positive effects on both patients and students. Holzberg, Whiting, and Lowy (1964) found that 84 percent of the patients said they enjoyed the relationship with the students, while the students reported that
71 percent of the patients showed improvement over the year.
Ninety-one percent of the students themselves reported they became less anxious about working in a mental hospital, 90 percent reported a greater understanding of mental illness, 84 percent suggested feelings about mental hospital personnel had changed, and 97 percent of the students considered that their experiences had contributed to their personal growth.

In another study (Holzberg et al., 1964) the effects of association with hospitalized mental patients on the personalities of 32 male college students were compared to a control group of 24 students who had not been involved with mental patients. Students in the Companion Program demonstrated significantly positive change in self-acceptance and in moral judgments concerning sexual and aggressive behaviors. Holzberg and Knapp (1965) have presented further evidence of positive effects upon Companions in their findings that after serving as Companions they are less frequently on academic probation and that they increase their introspective behavior.

More recently Holzberg, Knapp, and Turner (1967) have collected psychological test data comparing patients in the Companion Program with a group of control patients who were not in the program. The Depression scale of the MMPI showed a significant change from the pretest to the posttest for the Companion Patients. A similar difference on the Paranoid scale missed significance.
Scheibe (1965) described a program which is similar to the Companion Program model except that the students were assigned to work for a continuous 8-week period rather than once a week for a year as required by the Companion Program. Students in the Service Corps Program of the State of Connecticut lived at the hospital and spent a normal working week with chronic patients for which they received $200 salary for the two month period. Students were not assigned to a specific patient but worked with all the patients on the ward in unstructured activities. Positive changes in the students' description of the typical patient were noted on an adjective check list given at the beginning and at the end of the work period. In describing themselves on the Gough Adjective Check List, students exhibited significant gains in Achievement, Dominance, Self-Confidence, and Nurturance. There were no reported adverse effects on the college students as a result of working with the mental patients. Further, Greenblatt and Kantor's (1962b) findings were substantiated in that a crystallization of vocational goals appeared in a direction favorable to mental health.

Hersch, Kulik, and Scheibe (1969) subsequently published a more detailed study of personal characteristics of college volunteers in the Service Corps Program. One hundred fifty-one students serving in the Connecticut Service Corps and 142 controls enrolled in summer school at four Connecticut colleges were given a battery of tests and questionnaires including
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 SVIB their interests were similar to those in professions emphasizing social service. Autobiographical data further indicated that the college student volunteers were more service oriented and more 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)."

Levine (1966) reported an investigation of the changes in attitude and behavior produced in students by a nonacademic, off-campus program which he suggested appeals to and puts to work the unenacted idealism of today's college youth. Recreational and social activities with the mental patients fostered more positive attitudes toward and increased interest in social action.

Walker, Wolpin, and Fellows (1967) described a program which was a joint venture between Westmont College, Santa Barbara, and Camarillo State Hospital, Camarillo, California.
Students received college credit for research and service activities involving direct contact with patients. Using a modified sentence-completion test for the students and subjective reports of the patients, the authors concluded that "we may be able to foster better personal developments as well as enrich school and college curricula while developing potential interest and entrance into the mental health field (p. 188)."

Hunt (1969) discussed a model for psychology he called the Hall-Nebraska "Model" where students are involved in a "counselor-counselee" relationship with various kinds of people who exhibit a variety of problems of living in the community. Undergraduate students became pals to deprived children, teenagers, families, children in orthopedic hospitals, children in institutions for emotional disorders, high school dropouts, and juvenile delinquents. Undergraduate college pals established an ongoing relationship with an individual in one of these categories and continued contact throughout the school year. When the counselor left college, he introduced his counselee to a new counselor and encouraged the new relationship. This program has proven especially effective in the family project. This program deals with 21 children. There are three families, each with 7 children and each child has a college pal. There is no control group other than the children of other families in the neighborhood. Children from the neighborhoods of these three families seldom complete high school, and one criterion of the success of the
college pal project was the number of the children in the project who have completed high school. All children in the project who are old enough to have completed high school have done so. Furthermore, all have had at least a try at college. A second measure of success is the effect of the project on the counselors themselves. Hunt reported that not only does this type of project keep counselors from dropping out of college, but also they are learning about human relationships by dealing directly with people who are having problems in the community.

College students often prefer to work with children for a number of reasons. First, improvements in the younger patients is more easily observed even by naive volunteers. Also, students discover that in just a short time the children begin to respond positively to college students. Umbarger et al. (1962) reported that students working with the children felt less anxious about their own identity and more successful in their work than they did with the older patients. Students were apparently more effective because they could act in a more relaxed and normal manner. Further, socially validated roles of big brother and big sister worked extremely well with the children while no such role was readily available with the adult patients.

Reinherz (1964) reported a project in which students from Radcliffe and Harvard volunteered for work at Massachusetts State Hospital working with children who were inpatients and who did
not have severe behavioral problems. Volunteer college students spent one afternoon a week with the children after having met with a social work supervisor for 15 minutes ahead of time to receive a progress report of the child. During the first year of the program, ward psychiatrists reported improved functioning in three out of the four children in the program. In the second year, physicians reported change and progress in all seven patients. In several cases psychological tests confirmed positive growth. At the end of the second year two of the seven patients were ready for discharge and a third had gone home on extended leave.

Earlier, 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 the difference between a productive and nonproductive adult role. Often it was 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.

Goodman (1967) has experimented with companionship therapy between college students and troubled boys. Male college students were trained in a 2½ day experimental workshop and were
paid $1.40 an hour. After counselors were selected, they were divided into a "quiet" group and an "outgoing" group with half the quiet counselors being paired with boys evidencing social introversion. The other half of the quiet counselors were paired with boys having outgoing problems, and the same procedure was followed for the group of outgoing counselors. Although only tentative findings are available, results suggest that boys with social introversion problems gain most from participating in the program. Goodman noted that his students manifested personality changes not unlike those reported by Holzberg (1963). Goodman's counselors showed a dramatic increase of interest in the behavior of children and in working with troubled people. They also reported that improvement occurred in the way they interact with friends. Differences between counselors and matched controls who did not participate in the Companion Program were significant.

Stollak (1969) and Linden and Stollak (1969) have investigated the possibility of training college students as play therapists. In the former study the students' role is modeled as closely as possible to that of a client-centered play therapist. The basic task is to be empathetic, understanding, non-directive, and to convey this understanding and acceptance to the child. Students were trained in 10 sessions during which they observed play therapy techniques and played with normal children. At the end of the tenth session, each student was
assigned a child between the ages of 4 and 10 who were taken from the waiting list of the Lansing Child Guidance Clinic or the Psychology Clinic of Michigan State University. Stollak (1969) noted that undergraduates do significantly change their behavior during the sessions by increasing their reflection of content and clarification of feeling statements. Linden and Stollak (1969) concluded that communicated empathy is not an innate ability but must be taught. This has an important implication for the utilization of college students in mental health settings. If one adheres to the client-centered tenet that communication of accurate empathy is a necessary prerequisite for therapeutic movement, the turning loose of naive, untrained college students on a mental hospital is not as effective in producing change as the same students might be if they were first taught to communicate empathy by making appropriate verbal statements.

Cowen, Zax, and Laird (1966) selected 17 undergraduate volunteers to provide emotionally disturbed children with a meaningful relationship by pairing them with active, enthusiastic college students. Student volunteers had no training and were encouraged to foster a spontaneous, warm friendship with the child. There were no significant differences found between this group and a control group of emotionally disturbed children, probably because the program lasted only two months and the other group was simultaneously engaged in another program.
There were, however, significant changes among the volunteers. Institutional concepts were no longer rated in a stereotypically positive way and on a semantic differential, volunteers rated youngsters with emotional problems in a more positive and accepting way.

Few studies in which college students are used as therapeutic agents are similar enough to warrant conclusions in a given area. The populations of the studies are very diverse. Poser (1966) used chronic schizophrenics, Umbarger et al. (1962) used chronic "psychotics," Spoerl (1968) used hospitalized college students, Goodman (1967) worked with troubled boys, and Stollak (1969) worked with children of unstated diagnoses. There is also little consistency as to the kind or amount of training given the volunteers. Some college students received no training (Spoerl, 1968) while others were given specific training (Linden & Stollak, 1969; Stollak, 1969; Zunker & Brown, 1966). There was also a great deal of difference in motivation among the students. Some received money (Goodman, 1967; Poser, 1966; Scheibe, 1965), others received college credit (Umbarger et al., 1962), while still others received no extrinsic reward (Levine, 1966; Spoerl, 1968). There were also differences in the duration and frequency of time spent in the volunteer experience. Some students worked one day a week (Spoerl, 1968; Umbarger et al., 1962) and others worked full-time (Lawton & Lipton, 1963; Poser, 1966).
Although there are not 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 et al., 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 et al., 1967).

Different methods have been used to measure the positive effects of the volunteer experience. Some studies have used subjective reports (Goodman, 1967; Greenblatt & Kantor, 1962b; Holzberg & Gewirtz, 1963; Holzberg et al., 1964; Kantor, 1959; Umbarger et al., 1962), external measures, as volunteer functioning in school (Goodman, 1967; Holzberg & Knapp, 1965; J. McV. Hunt, 1969), Gough's Adjective Check List (Hersch et al., 1969; Scheibe, 1965), and other objective tests used only in single studies. While no study has used the POI as a measure, growth in self-actualization has been posited as a result of the volunteer experience. Social intelligence as a growth measure has not previously been used in regard to mental health volunteers.

However, Gruver (1971) says in his review of the literature, "personality changes such as positive changes in self-acceptance and moral judgments of a sexual and aggressive nature,
greater self understanding, increased self-confidence, and enhanced identity formation have been noted. . . . working in mental health programs may foster personality development in students in college (p. 123)."

Summary of the Literature Reviewed

Volunteers vs. nonvolunteers--The review shows there are personality differences between volunteers and nonvolunteers, but the difference varies with the situation for which volunteers are called. The dimension of personality on which they differ most depends upon the instruments used. As these are varied there are no consistent trends apparent. For the hypothesis of the present study the studies by Hersch et al. (1969) and Knapp and Holzberg (1964) concerning students who volunteer as mental health workers are most relevant. Both find volunteers to be slightly better adjusted than nonvolunteers. Therefore in this study it would be expected that differences between volunteers and nonvolunteers would be found.

College students as volunteers--There are many studies indicating that college students are effective mental health volunteers and that the volunteer experience has a positive effect on the students' personalities. Increases in self-acceptance, self-confidence, and personal identity have been found. The POI is a test which measures such concepts which it defines as self-actualization. Thus the POI would seem to be
an appropriate measure of this aspect of volunteer personality. Social intelligence in volunteers has not previously been studied. It would seem that the ability to understand and interact with others is one that is of special importance to volunteers in the mental health field. Thus social intelligence is another variable that will be examined in this experiment. Since previous studies have found that volunteers benefit from their experience, this study would be expected to show that self-actualization and social intelligence will be enhanced as a result of the volunteer experience.

This study will examine the difference between VIP volunteers at a day school for emotionally disturbed children and a control group of nonvolunteers in terms of self-actualization and social intelligence before the volunteer experience and after a two and one-half month period. The specific hypotheses to be tested are:

1. The volunteers and nonvolunteers will show differences before and after the volunteer experience and these differences will show that the volunteers have greater self-actualization as measured by the POI and social intelligence as measured by the Guilford Social Intelligence test than nonvolunteers.

2. The volunteers will show an increase in self-actualization and social intelligence, as defined above, at the end of the experimental period.
Subjects

Volunteers Interested in People (VIP) is an organization to coordinate, train, and staff volunteer workers in social service programs. The local members are students at Loyola University. While VIP is involved in many service programs, the college students participating in this study were all volunteers at a day school for emotionally disturbed children. VIP is divided into committees for each service program, each headed by a project manager who coordinates and trains the volunteers. After the volunteers were assigned to the day school program they were asked to participate in this experiment. The volunteers' participation was not mandatory. The initial experimental group consisted of 31 VIP volunteers at the day school. At posttesting the experimental group N was 21.

The control group consisted of students drawn from a pool of experimental subjects at Loyola University made of Introductory Psychology students as part of their course requirement. They indicated whether they were members of VIP and those who were are eliminated from the data analysis. The control group consisted of 58 nonvolunteers at pretesting. At posttesting the control group N was 37. The demographic subject variables are summarized in Table 1.
Instruments

1. Both groups gave information about their age, sex, number of hours currently working per week at an after-school job, and major in school. These are all factors which the author felt could influence test results and volunteering behavior.

2. Self-actualization was measured by the Personal Orientation Inventory (POI). The POI 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. Such a person may be described as one who utilizes his talents and capabilities more fully, lives in the present rather than dwelling on the past or the future, functions relatively autonomously, and tends to have a more benevolent outlook on life and on human nature than the average person. Four major scales and ten subscales are used in comparing the subject's responses to normative samples. Two of the major scales define a time ratio, two a support ratio. The time ratio assesses the degree to which one is reality oriented in the present and who is able to bring past experiences and future expectations into meaningful continuity. The support ratio defines relative autonomy by assessing a balance between other-directedness and inner-directedness. Other-directed persons tend to be dependent while inner-directed persons tend to be self-willed. A self-actualized person transcends and
Table 1
Demographic Subject Variables

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* Subjects who completed both pre and post testing.
integrates both orientations, and this expresses itself in an optimal ratio between other-directedness and inner-directedness. The test manual reports that the POI has been shown to significantly discriminate between clinically judged groups of self-actualized and non-self-actualized adults. Test-retest reliability coefficients are .71 for Time-Competence and .84 for Introversion-Extraversion. The POI has been used previously in research in personal growth and was chosen as appropriate to measure growth in the volunteer situation. The two major scales,
Time-Competence and Introversion-Extraversion, were examined as the measures of self-actualization.

3. In this study social intelligence was measured to examine volunteer and nonvolunteer differences as well as possible changes in this factor due to volunteer experiences. J. P. Guilford defines social intelligence as "information, essentially nonverbal, involved in human interactions, where awareness of attention, perceptions, thoughts, desires, feelings, moods, emotions, intentions, and actions of other persons . . . is important (p. 77)." The Guilford battery to measure social intelligence consists of six subtests. These subtests rely heavily on cartoons and pictures rather than on verbal material to test social cognitive aptitude. The Guilford test manual states that four of the subtests, Social Translations, Cartoon Predictions, Missing Cartoons, and Expression Groupings comprise the best overall composite for measuring social aptitude. Therefore the composite scores of these four subtests were used because of time limitations and to simplify data analysis. The test manual reports that the intercorrelation of separately timed halves shows a reliability of .88 for the composite Guilford score of the four subtests administered. Construct validity is based on the fact that factor analysis of this test along with 41 other aptitude measures has shown that the Guilford taps abilities other than those usually measured by tests of intellectual qualities.
4. The WAIS vocabulary subtest was used as an estimate of intelligence. Since verbal intelligence has been questioned as a factor in tests of social intelligence, this is needed to insure that both groups are from the same population. Scores on the vocabulary subtest have been shown to be correlated .87 with the score on the entire WAIS according to the WAIS test manual. Since the experiment needed only a rough measure of the comparability of the experimental and control groups on intelligence, the scores from this WAIS subtest were used.

Procedure

Volunteer data was collected by the VIP day school project manager and the experimenter at the Loyola Child Guidance Center. Control data was collected by an assistant and the experimenter at Loyola University. Written instructions were used by all testers to insure uniform test administration. The data was collected during a two week period at the beginning of the semester when the volunteers were just beginning their work at the day school and again during a two week period two and one-half months later.

Statistical Analysis

<table>
<thead>
<tr>
<th></th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volunteers</td>
<td>31</td>
<td>21</td>
</tr>
<tr>
<td>Nonvolunteers</td>
<td>58</td>
<td>37</td>
</tr>
</tbody>
</table>

Final N = 58
The groups x time of testing for each personality test constituted the main design of the study. The two ratio scores of the P0I and the composite score of the four subtests of the Guilford were used in comparing the groups. A preliminary one-way analysis of variance to compare the WAIS vocabulary scores was done prior to the main analysis. All P0I data was analyzed using analysis of covariance controlling for age because the P0I has been shown to be influenced by age. Due to the limitations of the computer used, a one-way analysis of variance was done for the Guilford scores of all the pretest subjects. Then t tests were used on all other Guilford analyses. Information on sex, age, major in school, and part-time work was tallied by group for the pre- and posttest sessions. This was examined for trends in group composition.
Chapter IV

Results

Comparison of Demographic Data

The sex, age, working hours in paid employment, and school major of the subjects were examined to insure that there were no gross differences in these areas which might have influenced the test results and to form a picture of students who are volunteers. The frequency in each category was tabulated as a percentage of each group. The data was analyzed twice, the second time including only those subjects who participated in both test sessions to see if subject attrition changed the character of the groups.

Both groups were composed of essentially the same ratios of male and female subjects. The groups did differ in age, however. The final control group consisted of 72.9 percent subjects eighteen years old while the final experimental group was composed of 71.5 percent subjects twenty to twenty-two years old. Thus most of the control subjects were probably college freshmen while most experimental subjects were probably upperclassmen. This group difference was allowed for by using analysis of covariance for the POI and the WAIS age differentiated subtest tables. There is no data showing that the Guilford is sensitive to age difference in this type of population. Consequently, the groups were treated as equal in that test analysis.
A comparison of the data on number of hours working per week at an after-school job showed that in the original sample 65.5 percent of the control group was not working while 51.6 percent of the experimental group was not working. However, in the final sample 51.4 percent of the control group and 66.7 percent of the experimental group were not working. The groups were otherwise comparable in working hours. A comparison of the data on school majors showed the control group divided fairly equally between undeclared, psychology, biology, nursing, and other majors while the experimental group was divided into about 60 percent psychology majors and 40 percent other majors. The composition of both groups in relation to school major did not change from pre- to posttest. Both of these differences in group composition could have a possible influence on the test results. However, the data from this sample does show that a student mental health volunteer at Loyola University tends to be twenty years old or older, a psychology major, and may or may not also have a part-time job.

Vocabulary Subtest Comparison

Each subject's vocabulary score was assigned a scaled score according to the subject's age using the WAIS test manual tables of age normative scores. The experimental and control group scaled scores were then compared using a one-way analysis of variance (see Table 2).
Table 2

One-Way Analysis of Variance Comparing WAIS Vocabulary Scores of Experimental and Control Subjects* from the Pretest

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>D.F.</th>
<th>M.S.</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1</td>
<td>3.73</td>
<td>.78</td>
<td>n.s.</td>
</tr>
<tr>
<td>Within Groups</td>
<td>87</td>
<td>4.76</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>88</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Including all subjects participating in the pretest

The experimental group mean was 14.52 and the standard deviation was 1.88. The control group mean was 14.09 and the standard deviation was 2.33. The obtained F ratio of .78 is not significant for 1 and 87 degrees of freedom, showing that the two groups are essentially similar in intellectual ability so that the differences found on the other tests cannot be attributed to this factor.

Guilford Test of Social Intelligence Comparisons

The Guilford composite scores for the experimental and control groups from the first test session were analyzed twice, first using all the subjects and then using only the scores of subjects who also completed the second test session. In the first comparison of the experimental and control groups a one-way analysis of variance was used (see Table 3).
Table 3

One-Way Analysis of Variance Comparing Guilford Scores of Experimental and Control Subjects* From the Pretest

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>D.F.</th>
<th>M.S.</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1</td>
<td>1.75</td>
<td>.01</td>
<td>n.s.</td>
</tr>
<tr>
<td>Within Groups</td>
<td>87</td>
<td>120.77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>88</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Including all subjects participating in the pretest

The experimental group mean was 80.48 and the standard deviation 9.36. The control group mean was 80.19 and the standard deviation was 11.76. The obtained F ratio of .01 is not significant for 1 and 87 degrees of freedom. A t test was used in the second analysis. (see Table 4) The experimental group mean including only those subjects who also completed the retest was 81.10 and the standard deviation 9.40. The control group mean computed in the same manner was 81.62 and the standard deviation was 10.44. The t value of .19 found is also not significant for 56 degrees of freedom. Thus the experimental and control group scores did not differ on the Guilford at the first test session.

The next three statistical comparisons involved only those subjects who participated in both the test and re-test procedures. T tests were used for all these comparisons. These and the previous t test are summarized in Table 4.
Table 4

T Tests Comparing Experimental and Control* Test-Retest Guilford Scores

<table>
<thead>
<tr>
<th>Groups**</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1 - C1</td>
<td>0.19</td>
<td>n.s.</td>
</tr>
<tr>
<td>E2 - C2</td>
<td>1.12</td>
<td>.15</td>
</tr>
<tr>
<td>C1 - C2</td>
<td>.34</td>
<td>n.s.</td>
</tr>
<tr>
<td>E1 - E2</td>
<td>1.30</td>
<td>.10</td>
</tr>
</tbody>
</table>

* Including only those subjects who completed both test sessions.

** E1 Refers to the experimental pretest group.

E2 Refers to the experimental posttest group.

C1 Refers to the control pretest group.

C2 Refers to the control posttest group.

First the Guilford scores of the control group from both test sessions were compared. The control group mean from the first test session was 81.62 and the standard deviation 10.44. The control group mean from the second test session was 81.95 and the standard deviation 9.87. A t value of .34 was obtained. This is not significant for 72 degrees of freedom. Then the experimental and control group scores from the re-test session were compared. The experimental group mean from the re-test was 85.00 and the standard deviation was 9.70. The control
group mean from the re-test was 81.95 and the standard deviation 9.87. A t value of 1.12 was obtained which is not significant for 56 degrees of freedom. Finally the experimental scores from the test and re-test sessions were compared. The experimental group mean from the pretest was 81.10 and the standard deviation 9.40. The experimental group mean from the posttest was 85.00 and the standard deviation was 9.70. A t value of 1.30 was obtained. This is not significant for 40 degrees of freedom. While none of the t values are within the accepted range of significance, t = 1.12 is significant for p = .15 and t = 1.30 is significant for p = .10. There is a definite trend showing that the experimental group improved on the Guilford while the control group scores did not change.

POI Comparisons

Two POI ratio scores, the time-competence score and the introversion-extraversion score, were analyzed in comparing the experimental and control groups. The subjects' scores from the first test session were compared twice, first including all the subjects tested and then including only those subjects who also participated in the second test session also. An analysis of covariance controlling for the age factor was used. When all the subjects were included a t value* of 2.18 for the time-competence

* All analysis of covariance results are reported as the t test matrix for the adjusted group means.
score was found. The experimental group adjusted mean was 5.38 and the standard error .57. The control group adjusted mean was 6.94 and the standard error .41. A t value of 2.83 for the introversion-extraversion score was found. The experimental group adjusted mean was 36.81 and the standard error 1.90. The control group adjusted mean was 43.62 and the standard error 1.36. Both t values are significant (p = .05) for 87 degrees of freedom. When only subjects who completed the second half of

---

**Table 5**

Analysis of Covariance Comparing Experimental and Control Pretest* POI Scores

<table>
<thead>
<tr>
<th></th>
<th>Source of Variance</th>
<th>D.F.</th>
<th>M.S.</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time-Competence</strong></td>
<td>Equality of Adjusted Cell Means</td>
<td>1</td>
<td>43.18</td>
<td>4.74</td>
<td>.05</td>
</tr>
<tr>
<td></td>
<td>Zero Slope</td>
<td>1</td>
<td>15.43</td>
<td>1.69</td>
<td>n.s.</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>86</td>
<td>9.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Equality of Slopes</td>
<td>1</td>
<td>6.74</td>
<td>0.74</td>
<td>n.s.</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>85</td>
<td>9.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Introversion-Extraversion</strong></td>
<td>Equality of Adjusted Cell Means</td>
<td>1</td>
<td>822.49</td>
<td>8.00</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td>Zero Slope</td>
<td>1</td>
<td>453.01</td>
<td>4.41</td>
<td>.05</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>86</td>
<td>102.78</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Equality of Slopes</td>
<td>1</td>
<td>1.48</td>
<td>0.01</td>
<td>n.s.</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>85</td>
<td>103.97</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Including all subjects who participated in the pretest session.

the experiment were compared a t value of 1.85 for time-
competence and 2.13 for introversion-extraversion were found. For the time-competence score the experimental group adjusted mean was 5.16 and the standard error .57. The control group adjusted mean was 6.53 and the standard error .44. For the introversion-extraversion score the experimental group adjusted mean was 36.05 and the standard error 1.94. The control group adjusted mean was 41.37 and the standard error 1.49. Both of

Table 6
Analysis of Covariance Comparing Experimental and Control Pretest* POI Scores

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>D.F.</th>
<th>M.S.</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equality of Adjusted Cell Means</td>
<td>1</td>
<td>24.47</td>
<td>3.43</td>
<td>n.s.</td>
</tr>
<tr>
<td>Zero Slope</td>
<td>1</td>
<td>15.77</td>
<td>2.21</td>
<td>n.s.</td>
</tr>
<tr>
<td>Error</td>
<td>58</td>
<td>7.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equality of Slopes</td>
<td>1</td>
<td>5.07</td>
<td>0.71</td>
<td>n.s.</td>
</tr>
<tr>
<td>Error</td>
<td>57</td>
<td>7.17</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>D.F.</th>
<th>M.S.</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equality of Adjusted Cell Means</td>
<td>1</td>
<td>369.10</td>
<td>4.53</td>
<td>.05</td>
</tr>
<tr>
<td>Zero Slope</td>
<td>1</td>
<td>405.25</td>
<td>4.98</td>
<td>.05</td>
</tr>
<tr>
<td>Error</td>
<td>58</td>
<td>81.39</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equality of Slopes</td>
<td>1</td>
<td>2.58</td>
<td>0.03</td>
<td>n.s.</td>
</tr>
<tr>
<td>Error</td>
<td>57</td>
<td>82.77</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Including only those subjects who completed both test sessions.

these t values are also significant (p = .05) for 56 degrees of freedom. This supports the experimental hypothesis that the
experimental group was more self-actualized as tested by the POI than the control group at the first test session.

Then the experimental and control group scores from the second test session were analyzed. A t value of 0.16 for time-

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>D.F.</th>
<th>M.S.</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equality of Adjusted Cell Means</td>
<td>1</td>
<td>0.14</td>
<td>0.03</td>
<td>n.s.</td>
</tr>
<tr>
<td>Zero Slope</td>
<td>1</td>
<td>6.30</td>
<td>1.30</td>
<td>n.s.</td>
</tr>
<tr>
<td>Error</td>
<td>55</td>
<td>4.87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equality of Slopes</td>
<td>1</td>
<td>0.12</td>
<td>0.02</td>
<td>n.s.</td>
</tr>
<tr>
<td>Error</td>
<td>54</td>
<td>4.95</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7
Analysis of Covariance Comparing Experimental and Control Posttest POI Scores

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>D.F.</th>
<th>M.S.</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equality of Adjusted Cell Means</td>
<td>1</td>
<td>0.22</td>
<td>0.00</td>
<td>n.s.</td>
</tr>
<tr>
<td>Zero Slope</td>
<td>1</td>
<td>137.28</td>
<td>2.16</td>
<td>n.s.</td>
</tr>
<tr>
<td>Error</td>
<td>55</td>
<td>63.42</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equality of Slopes</td>
<td>1</td>
<td>60.26</td>
<td>0.95</td>
<td>n.s.</td>
</tr>
<tr>
<td>Error</td>
<td>54</td>
<td>63.48</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

competence was found. The experimental group adjusted mean was 5.65 and the standard error .49. The control group adjusted mean was 5.55 and the standard error .37. A t value of .04 for introversion-extraversion was found. The experimental group adjusted mean was 37.79 and the standard error 1.78. The control group adjusted mean was 37.88 and the standard error was 1.33. Neither t values are significant for 56 degrees of freedom (see
Table 7). Thus at the end of the experimental period the two
groups no longer differed in self-actualization as measured by
the POI. When the control group scores from the first testing
were compared to the scores from the second testing, the results
bore out the fact that subjects in the control group had improved
on the measures of self-actualization. For the time-competence
score the control group adjusted mean from the pretest was 6.62
and the standard error .42. The control group adjusted mean
from the posttest was 5.62 and the standard error .42. For the
introversion-extraversion score the control group adjusted mean
from the first test session was 41.76 and the standard error was
1.47. The control group adjusted mean from the second test
session was 38.22 and the standard error 1.47. A t value of
1.68 for the time-competence score and 1.71 for the introversion-
extraversion score were found. Both t values are significant
(p = .05) for 72 degrees of freedom (see Table 8). In comparing
the experimental group scores from the first and second test
sessions a t value of .42 for time-competence and .50 for
Table 8
Analysis of Covariance Comparing Control Pretest-Posttest* POI Scores

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>D.F.</th>
<th>M.S.</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equality of Adjusted Cell Means</td>
<td>1</td>
<td>18.51</td>
<td>2.82</td>
<td>n.s.</td>
</tr>
<tr>
<td>Zero Slope</td>
<td>1</td>
<td>11.30</td>
<td>1.72</td>
<td>n.s.</td>
</tr>
<tr>
<td>Error</td>
<td>71</td>
<td>6.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equality of Slopes</td>
<td>1</td>
<td>0.11</td>
<td>0.02</td>
<td>n.s.</td>
</tr>
<tr>
<td>Error</td>
<td>70</td>
<td>6.66</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Time-Competence**

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>D.F.</th>
<th>M.S.</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equality of Adjusted Cell Means</td>
<td>1</td>
<td>232.21</td>
<td>2.92</td>
<td>n.s.</td>
</tr>
<tr>
<td>Zero Slope</td>
<td>1</td>
<td>528.00</td>
<td>6.64</td>
<td>.05</td>
</tr>
<tr>
<td>Error</td>
<td>71</td>
<td>79.48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equality of Slopes</td>
<td>1</td>
<td>11.17</td>
<td>0.14</td>
<td>n.s.</td>
</tr>
<tr>
<td>Error</td>
<td>70</td>
<td>80.46</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Introversion-Extraversion**

* Including only those control subjects who completed both test sessions.

introversion-extraversion were found. For the time-competence score the experimental group adjusted mean from the pretest was 5.24 and the standard error .48. The experimental group adjusted mean from the posttest was 5.52 and the standard error .48. For the introversion-extraversion score the experimental group adjusted mean from the first test session was 36.05 and the standard error 1.62. The experimental group adjusted mean from the second test session was 37.19 and the standard error was
<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>D.F.</th>
<th>M.S.</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equality of Adjusted Cell Means</td>
<td>1</td>
<td>0.87</td>
<td>0.18</td>
<td>n.s.</td>
</tr>
<tr>
<td>Zero Slope</td>
<td>1</td>
<td>10.98</td>
<td>2.23</td>
<td>n.s.</td>
</tr>
<tr>
<td>Error</td>
<td>39</td>
<td>4.92</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equality of Slopes</td>
<td>1</td>
<td>1.93</td>
<td>0.39</td>
<td>n.s.</td>
</tr>
<tr>
<td>Error</td>
<td>38</td>
<td>5.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Introversion-Extraversion**

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>D.F.</th>
<th>M.S.</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equality of Adjusted Cell Means</td>
<td>1</td>
<td>13.78</td>
<td>0.25</td>
<td>n.s.</td>
</tr>
<tr>
<td>Zero Slope</td>
<td>1</td>
<td>5.53</td>
<td>0.10</td>
<td>n.s.</td>
</tr>
<tr>
<td>Error</td>
<td>39</td>
<td>55.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equality of Slopes</td>
<td>1</td>
<td>29.57</td>
<td>0.53</td>
<td>n.s.</td>
</tr>
<tr>
<td>Error</td>
<td>38</td>
<td>55.92</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Including only those experimental subjects who completed both test sessions.

1.62. Neither of these t values is significant for 40 degrees of freedom, showing that the experimental group did not change greatly in self-actualization as measured by the POI (see Table 9).
Chapter V
Discussion

The volunteers and nonvolunteers were compared using the Guilford Social Intelligence test, the POI measure of self-actualization, the WAIS vocabulary subtest, and pertinent demographic variables. The results showed that the experimental and control groups initially did not differ in social intelligence as measured by the Guilford, but at the end of the experimental period the volunteers increased on the Guilford and the nonvolunteers did not, although the increase was not significant. The volunteers initially showed greater self-actualization as measured by the POI than the nonvolunteers. At the end of the experimental period, contrary to the experimental hypothesis, the nonvolunteers had increased in self-actualization on the POI while the experimental group had not changed. Consequently, these two groups were equivalent on the POI measure at the second testing. A comparison of the other variables studied showed the two groups were similar on the WAIS vocabulary subtest and on their ratio of males to females. However, the experimental group was older, composed mostly of psychology majors, and tended to have an after-school job more often than the controls.

Demographic Variables

Both groups were compared on age, sex, major in school, number of hours working per week, and WAIS vocabulary scores.
Initially it had been hoped that the groups could be matched on these variables. However, the groups were found to be very different in age and major, and matching would have reduced the groups below a statistically feasible point. Therefore the data was analyzed using all participating subjects.

The two groups were found to be comparable on vocabulary scores and male-female composition. The main difference showed 73% of the control group to be 18 years old while 72% of the experimental group was 20 to 22 years old. In addition to the age difference, per se, the experimental and control groups also represented different stages in their college experience. Assuming average rates of progression through school, we may imply that most of the nonvolunteers were college freshmen just beginning their college careers while the volunteers were upperclassmen who had already attended at least one year of college. The control group was also divided fairly equally into five school majors: undeclared, psychology, biology, nursing, and others. About 60% of the experimental group were psychology majors and the rest had other majors. While over one-half of both groups did not work, slightly more controls did not work. This variable did seem important in determining which subjects completed the experiment. In the control group it was the non-workers who tended not to take both halves of the tests, while in the experimental group it was the working subjects who more often did not finish the experiment.
Thus the average nonvolunteer was 18, a college freshman, and not working. Sex and major were not discriminating variables. The average volunteer was 20, an upperclassman, and a psychology major. Sex and whether working were equally divided factors. This difference in the two groups was a problem in interpreting the experimental data. In fact, all the findings are mitigated by these group differences.

**Comparisons of Social Intelligence**

Two hypotheses were made concerning social intelligence (SIQ) as measured by the Guilford. First, it was predicted that the volunteers would perform better on the SIQ measure than the nonvolunteers at the first test session because studies have found that mental health volunteers score better than nonvolunteers on most variables. Second, it was predicted that the volunteers would increase in their SIQ measure performance and the nonvolunteers would not by the second testing because studies have shown the volunteer experience in mental health situations tends to improve volunteer attitudes toward others.

The volunteers and nonvolunteers did not differ initially on the SIQ measure. Since most studies found differences between these two groups it would seem reasonable to hypothesize that performance on measures of SIQ would also differ. However social intelligence as a variable has not previously been used to compare these groups. Studies which did not find inter-group differences between volunteers and nonvolunteers measured values
on the TAT (Lerrthy, Lubin, & Zuckerman, 1959; Riggs & Kaess, 1955), anxiety on the Taylor MAS (Himelstein, 1956; Howe, 1960), and personality factors on the EPPS (Kaess & Long, 1954). Perhaps SIQ is also a variable which does not differentiate these groups. However, without further study it is impossible to say whether this lack of difference in SIQ can be generalized too far. It is important to note that the volunteers were older and mainly psychology majors. These differences from the control group could have been a contributing factor so that no conclusions can be drawn from these findings without further study.

At the end of the experimental period the control group had not changed on the SIQ measure while the experimental group showed a nonsignificant but definite increase on the Guilford. This could suggest that a volunteer experience at a day school for emotionally disturbed children may be related to factors influencing social intelligence. It is possible that, with a longer experimental period or a larger group of volunteers, the difference may have been significant. However, here again there is the problem that the experimental and control groups were not comparable on all variables. It is difficult to predict how the volunteers might have differed from a truly comparable group, yet the volunteers did increase somewhat on the Guilford SIQ measure. Whether they were catching up with or superseding their peers does not change that apparent trend. Working as a mental health volunteer would seem to involve greater sensitivity
to human interaction and the ability to interpret this interaction could be a skill which can be developed or improved upon. This study did not explore the volunteer experience itself. It may be unique at the Loyola Day School and, generalizing the results to all volunteer settings is not possible. Still, the volunteers in this study did seem to show a trend in increasing their Guilford social intelligence score after two and one-half months of working with emotionally disturbed children.

**Self-Actualization**

Similar hypotheses were made for the measures of self-actualization as for the social intelligence measure. The volunteers were predicted to differ initially from the non-volunteers on the POI and after the experimental period the volunteers were expected to increase on this variable while the nonvolunteers were not.

At the first test session the volunteers were significantly more self-actualized as measured by the POI than the nonvolunteers. Most studies have found differences between these two groups on a variety of variables. It is felt that people who are willing to volunteer for a situation have different personality features than those who are unwilling to involve themselves when presented with an opportunity to do so. In this study all Loyola students had been invited to a VIP introductory meeting. Those who did attend were free to choose from a variety of volunteer experiences. So the control group had had an
opportunity to volunteer and did not wish to do so. The experimental finding might seem to indicate that people who volunteer tend to be those who are more self-actualized on the POI. However, the results and possible conclusions are mitigated by the findings from the second test session.

At the retest session the nonvolunteers had increased on the self-actualization measures and now were equal to the volunteers on this variable, while the volunteers had not changed appreciably on the POI. This trend was the reverse of the hypothesized expectation and at variance with the results of all other studies examining volunteerism and personality change. There are three possible explanations for this finding.

First, it is known that scores on the POI are influenced by the age of the subject. In order to control this factor in this study, an analysis of covariance was used to analyze all POI comparisons. Again, the volunteer and nonvolunteer groups were shown to be different in age. At the retest 73% of the nonvolunteers were 18 years old and 72% of the volunteers were 20 to 22 years old. As mentioned before we can imply from this age difference that most of the nonvolunteers were college freshmen just beginning their college careers while the volunteers were upperclassmen who had attended at least one year of college. The nonvolunteers were entering a new phase of schooling and just beginning the transition to adulthood. Their rapid growth in self-actualization as measured by the POI over their
first semester in college is then perhaps understandable. They must deal with a multitude of changes in life style and self-expectations. Many live away from home for the first time and have more independence in the classroom. One answer then to the experimental finding is that in becoming a college student, an increase in self-actualization may occur rapidly. While statistically an age difference of two years is not great, the difference between the ages of 18 and 20 may reflect very different levels of development, especially for college students.

This point bears on the original difference found between the volunteers and nonvolunteers. The volunteers had not changed on the self-actualization measures by the time of the retest. Are we to imply that after this initial jump in self-actualization upon entering college this variable remains unchanged, at least for two to four years? Again the problem of this study seems to be that the two groups were not comparable in age or major in school. It is impossible to say whether the volunteers are representative of all college upperclassmen. The volunteers did not increase in self-actualization as measured by the POI despite their experience working with emotionally disturbed children which has already been shown to have a possible effect on their social intelligence as measured by the Guilford. Comparing the volunteers with a truly matched population might offer more definite conclusions but the conclusion made from the present data is that the volunteer experience does not
increase self-actualization on the POI measures.

A second explanation lies in the nature of the POI as a test instrument. The time-competence and the introversion-extraversion scores on the POI are ratio scores. All the questions included on both scales are answered true or false and are counted on one side or the other for the score of that ratio. Self-actualization is measured as an approximation to the ideal ratio. E.g., there are 127 items on the introversion-extraversion scale and the ideal ratio is one to three so that a score of 32 on introversion is closest to the ideal. In the control group many subjects scored higher than 32 at the first testing. Their range of scores was from 22 to 64 with a mean of 44.24, while the experimental group range was from 18 to 52 with a mean of 35.65. At the retest the control group scores ranged from 15 to 54 with a mean of 38.22 while the experimental group scores ranged from 27 to 47 with a mean of 37.19. Because the POI ideal is in the middle range and does not deal strictly with increases in scores, it is possible that the results actually reflect a statistical regression toward the mean rather than an increase in self-actualization. The fact that all of the POI major scales and sub-scales ideal scores are in the middle range invites this occurrence and seems to be a definite limitation of this test, especially as an experimental instrument.

A third explanation of the POI results is the fact that while comparing the experimental and control group composition
that completed both test sessions an interesting difference was noted. Of the control group subjects who dropped out of the experiment, 19 of the 38 non-working subjects did not return. Only two of the 20 working subjects in this group dropped out. Only two of the 16 non-working volunteers did not complete the experiment while 8 of the 15 working volunteers did not return. In other words, a disparity occurred among the subjects who failed to complete the experiment. In the control group 19 of the 21 subjects who did not return were also not working. In the experimental group 8 of the 10 subjects who did not return were those who were working. The scores of all these subjects

<table>
<thead>
<tr>
<th></th>
<th>Control N = 21</th>
<th>Experimental N = 10</th>
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<tr>
<td>Frequency</td>
<td></td>
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<tr>
<td>Non-Working</td>
<td>19</td>
<td>2</td>
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<tr>
<td>Working</td>
<td>2</td>
<td>2</td>
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<tr>
<td>Time-Competence</td>
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<td>(Ideal = 3)</td>
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<tr>
<td>0 - 6</td>
<td>6</td>
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<td>7 - 9</td>
<td>4</td>
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<td>10 +</td>
<td>8</td>
<td>1</td>
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<tr>
<td>Introversion</td>
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<tr>
<td>(Ideal = 32)</td>
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<td>0 - 16</td>
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<tr>
<td>17 - 47</td>
<td>7</td>
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<td>48 - 59</td>
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<td>60 +</td>
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were examined to see if this could have had an effect on the final P0I results. In fact, 12 of the 19 non-working control subjects had introversion-extraversion scores of 48 or more from the pretest and 4 of these subjects scored 60 or more. Twelve of the 19 had time-competence scores of 7 or more and 8 of these subjects scored 10 or more (see Table 10). These control subjects who dropped out of the experiment as a group had high P0I scores, indicating a lack of self-actualization as defined by this measure. The experimental subjects who dropped out did not seem to follow this pattern. Only 3 scored 7 or more on time-competence and only one scored 48 or more on introversion-extraversion. Since 8 of the 10 experimental drop-outs had after-school jobs it is possible that other commitments are the most likely reason they did not complete the experiment. Their P0I scores indicate no deviance from the experimental group as a whole and their attrition probably did not alter the experimental P0I results. However, it is possible to hypothesize that the control subject drop-outs were those who as a group did not come close to the P0I ideal of self-actualization. Besides their P0I scores we have two other variables pertinent to this hypothesis about the control drop-outs. First, these are students who are not working. While this in itself is not a sign of irresponsibility it is striking that 50% of the non-working control subjects did not return. Second, the control group participating in the experiment did so as part of a course
requirement. It was a 4 point experiment and the course required only 5 experimental credits. All control subjects knew that failure to complete both halves of the experiment meant losing all 4 credits. Thus dropping out of the experiment could affect their course grade. So the 19 control drop-outs had unusually high POI scores, were not working, and sacrificed course credit. If these subjects tended to be less self-actualized then their failure to complete the experiment could have affected the findings of the study, making the control group appear to have increased in self-actualization on the POI when in fact only those subjects with better self-actualization completed both parts of the experiment.

Inter-test Correlations

While no prediction had been made concerning the inter-correlations of the measures used, a Pearson Product-Moment correlation was done between various combinations of the tests to explore possible relationships. Comparisons of the POI ratio scores with the Guilford composite score and the WAIS vocabulary score yielded nothing of significance. All POI scores were first converted into difference scores using the absolute value of the difference between the actual score and the ideal score. The correlation between the WAIS vocabulary score and the POI time-competence score was .01, between the vocabulary score and the POI introversion-extraversion score it was .13, between the Guilford composite score and the time-competence score it was
.13, between the Guilford composite score and the time-competence score it was .11, and between the Guilford and the introversion-extraversion score it was .20. However, more interesting results occurred between the vocabulary and the social intelligence scores.

Social intelligence as a variable has not been used before in comparing volunteers and nonvolunteers. Actually social intelligence is not an extensively studied variable. One problem involved in this concept is what factors actually contribute to SIQ. Paper and pencil tests of SIQ often have a large verbal IQ weighting even though, as with the Guilford, visual tasks are involved (Walker, 1972). The Pearson Product-Moment showed the correlation of the Guilford and the vocabulary scores to be .45 (p = .001), indicating a significant amount of a verbal factor in the Guilford. In this study, involving college students, this is not a major drawback. However, in other studies involving social intelligence as measured by the Guilford, this factor should probably be controlled.

Suggestions and Limitations

There were three major problems with this study. First, the control and experimental groups were drawn from different populations and this presumably affected many of the results. Second, the POI as a test instrument was not an ideal choice for this study because of a possible tendency for scores to regress toward the mean and because of the possibility that it
is very sensitive to changes in subjects of the age range used in the study. Both of these possibilities compromise interpretation of the results. Third, the experimental design did not provide strong enough safeguards against subject attrition. Because of this, attrition in the control group might have affected the final test results.

Further studies of the affects on the volunteer of a mental health experience is an important research area. An especially crucial area of study is the effect on volunteer personality. Most studies have examined the initial differences between volunteers and those who do not volunteer. Few study what volunteering does for the volunteer. It is possible that volunteering, especially in mental health areas, has as beneficial an effect on the volunteer as it does on those with whom he works.
Chapter VI

Summary

Undergraduate social intelligence and self-actualization were studied comparing nonvolunteers and volunteers working with emotionally disturbed children before and after two and one-half months of the volunteer experience. The two groups initially did not differ on social intelligence as measured on the Guilford SIQ test, but after the experimental period the volunteers had increased on the social intelligence measure. The volunteers showed greater self-actualization as measured by the POI at the first test session than the nonvolunteers, but by the time of retesting the nonvolunteers had increased on the measure of self-actualization and were equal to the volunteers on this variable. One problem with the study was the lack of comparability of the two groups. The volunteers were several years older as a group than the nonvolunteers and much more likely to be psychology majors. These differences mitigate the results of the study and are definite limitations in generalizing the findings.
References


Holzberg, J. D., Whiting, H. S., & Lowy, D. G. Chronic patients and a college companion program. Mental Hospitals, 1964, 152-158.

Howe, E. S. Quantitative motivational differences between volunteers and non-volunteers for psychological experiments. Journal of Applied Psychology, 1960, 115-120.


Scheier, I. H. To be or not to be a guinea pig: Preliminary data on anxiety and the volunteer for experiment. *Psychological Reports*, 1959, 239-240.


APPENDIX A & B
Control Group only: E get folder from 6th floor experiment sign up desk (southeast corner). Enter yesterday's Ss marked present in master book. Then go to room 659 (641 on Wednesday). Check off people as they come in by writing "present" by their names in the folder and clarify last names if unclear in folder. Distribute the testing material in the most convenient manner but be sure each S receives:

1. Cover sheet (on top of other material)
2. Guilford answer sheet
3. 4 Guilford test booklets (Expression Grouping, Social Translations, Cartoon Predictions, Missing Cartoons)
4. WAIS vocabulary answer sheet
5. POI answer sheet
6. POI test booklet

Begin testing when all Ss listed in folder for the day are present or at 5:05 if all not present. Ss who come in after the first two Guilford subtests have been given should be told to arrange testing for another day or they will be reported unexcused (unless their story sounds good). Late Ss can be given the missed tests afterwards.

Experimental Group only: E distributes all the testing material (see above). Arrangements for testing and handling absence is up to the discretion of E. If only one test is being given, only handout that material, etc.

Opening Statement: You will be taking two tests (or 1 or 2 tests this time - exp. group). Before we begin please fill out the information on the top sheet. The results of the tests are all confidential and will only be available to the experimenter. You are asked to use your names only to insure that you can be contacted in January for the last half of the experiment.

Questions? (number of hours working per week means average number of hours spent at job per week) E should be familiar with all testing material so questions can be answered quickly.

Look up when you have finished filling out the information.

Guilford Test:
The first test consists of 4 parts. Each one will be timed and there is no penalty for guessing. Take the answer sheet which begins "Social Translations" and the test booklet marked "Social Translations". Put the rest of the testing material out of your way on the floor or under your chair. Be sure you put your name on the answer sheet, then read the directions on the test booklet.
(Pause for reading)

Any questions? . . . Okay, turn the page and begin. (Start timing 4 minutes with stopwatch)

Stop!

Turn the page to the next section and begin (Time 4 minutes)

Stop!

Find the booklet marked "Cartoon Predictions" and read the directions. You will continue using the same answer sheet marking the spaces under "Cartoon Predictions". (Pause for reading).

Any questions? . . . Okay, then turn the page and begin (Time 8 minutes).

Stop!

Turn the page to the next section and begin (Time 8 minutes).

Stop!

Find the booklet marked "Missing Cartoons" and read the directions. Use the spaces on the answer sheet marked "Missing Cartoons" for your answers. (Pause for reading)

Any questions? . . . Okay, turn the page and begin (Time 8 minutes).

Stop!

Turn the page to the next section and begin (Time 8 minutes).

Stop!

Take the booklet marked "Expression Grouping" and read the directions. Use the spaces on the answer sheet marked "Expression Grouping" for your answers. (Pause for reading)

Any questions? . . . Okay, turn the page and begin. (Time 5 minutes).

Stop!

Turn the page to the next section and begin (Time 5 minutes).

Stop!

You can take a short break if you'd like. Please be back in five minutes.

Now take the sheet marked "Vocabulary" that begins with the word "bed". Be sure you put your name on the top of the answer sheet. You are to write a short but complete definition of each word in the space provided. This is not a timed test but work as quickly as possible and please write legibly. You will not be penalized for guessing and if you need more space, write on the back of the sheet. Any questions?

When you are finished with the vocabulary sheet you may go on and take the test labelled the Personal Orientation Inventory. The answer sheet is labelled POI and the instructions are on the test booklet. Hand in all the test booklets and your answer sheets when you have finished. Then you may leave.
When Ss leave: E checks that all tests are handed in along with all the answer sheets. Make sure the cover sheet and all answer sheets have S's name on them.

Control Group - Inform S that sign up sheets will be put out in January. Remind him he must sign up in January to receive any credit for the experiment. Sign his credit sheet (see sample).

Experimental Group - Inform S that he will be contacted in January for the last half of the experiment.

Staple or clip all the S's sheets together.
EXPRESSION GROUPING

Form A

Maureen O'Sullivan and J. P. Guilford

In the sample item below, the three pictures at the left all go together because they stand for one kind of thought, feeling, or intention. One of the pictures at the right also belongs with them, since it shows the same expression.

Look at sample item 31.

The space under number 2 has been blackened because picture number 2 expresses the same kind of feeling, of tension or nervousness, that is shown in the three pictures at the left. Pictures 1, 3, and 4 show people who are enjoying themselves and are not tense or nervous.

For each item in this test you are to choose the expression that belongs with the three pictures grouped at the left. Mark your answers on your answer sheet.

This test has two parts, of 15 items each. When you reach the end of Part I, stop until you are told to go on to Part II. You will have 5 minutes to work on each part.

If you have questions, ask them now.

Stop Here

WAIT FOR FURTHER INSTRUCTIONS

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STOP HERE
WAIT FOR FURTHER INSTRUCTIONS
Stop Here
WAIT FOR FURTHER INSTRUCTIONS
DO NOT WRITE ON THIS BOOKLET

CARTOON PREDICTIONS

Form A

Maureen O'Sullivan and J. P. Guilford

In each item of this test, there is a cartoon showing people's reactions in a situation. After deciding what the intentions or feelings of the cartoon characters are, you are to choose the one of three cartoons which shows what will happen next.

Look at sample item 31.

In the given cartoon, Barney, the bald-headed man, is frightened and is asking his son for help. The boy is upset by his father's predicament. The space under number 1 is blackened to indicate that alternative 1 is the correct prediction to make from this cartoon. The boy and his mother would help Barney get down. Neither alternative 2 nor 3 is correct. Since Barney looks frightened and helpless, it is unlikely that he could climb to the roof. The boy looks upset, so he and his mother would not laugh at Barney.

Remember: you are to predict what will happen on the basis of the thoughts, feelings, or intentions of the cartoon characters involved. Do not choose an alternative only because it is "funny." Mark your answers on your answer sheet.

This test has two parts, of 15 items each. When you reach the end of Part I, stop until you are told to go on to Part II. You will have 4 minutes to work on each part. Work as rapidly as you can. Do not spend a long time on any one item.

If you have questions, ask them now.

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In the "Ferd'nand" cartoon strip shown below, the third picture is missing. The missing picture is among the four pictures in the second row. If you choose the right picture, the strip will make sense and the feelings and thoughts of the characters will all fit.

Look at sample item 29.

![Sample Picture](image)

At the end of the story, Ferd'nand is upset and misses his dinner. The little boy is unconcerned. The mother is annoyed and is not making dinner. All these things are happening because Ferd'nand left the kitchen messy, which annoyed Mrs. Ferd'nand. Alternative 4, then, is the right choice. Pictures 1, 2, and 3 do not complete a series of four pictures that makes sense out of what the people are doing, thinking, and feeling.

In each item that follows, find the picture that completes the story and blacken the right space for that item on your answer sheet.

This test has two parts, of 14 items each. When you reach the end of Part I, stop until you are told to go on to Part II. You will have 8 minutes to work on each part.

If you have questions, ask them now.
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WAIT FOR FURTHER INSTRUCTIONS
SOCIAL TRANSLATIONS
Form A

Maureen O'Sullivan and J. P. Guilford

In this test you will be given a statement. You will also be told who said the statement to whom. You are to choose another pair of people between whom the same verbal statement will have a different meaning or intention.

Look at sample item 25.

25. boss to secretary

"Please."

1) beggar to stranger
2) father to son
3) chauffeur to boss

In sample item 25, a boss saying "Please " to his secretary is a statement of courtesy. A father saying "Please " to his son or a chauffeur saying "Please " to his boss is a similar, polite statement. However, if a beggar were to say "Please " to a stranger, the statement would have a more emotional, imploring meaning. Since the statement "Please " made by a beggar to a stranger has a different intention than "Please " said by a boss to his secretary, alternative 1 is the correct answer.

REMEMBER: you are to choose the pair of people between whom the given statement will have a different intention or meaning. Mark your answers on your answer sheet.

This test has two parts, of 12 items each. When you reach the end of Part I, stop until you are told to go on to Part II. You will have 4 minutes to work on each part.

If you have questions, ask them now.

Stop Here

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| Part I | salesgirl to customer | 1) wife to eating husband |
|       | "How do you like that?" | 2) tailor to client |
|       | 2) tailor to client | 3) fighter to opponent |

| friend to friend | 1) happy son to father |
| "You're a great guy." | 2) grateful boy to teacher |
| 3) disgusted man to acquaintance |

| salesgirl to customer | 1) smiling woman to child |
| "I'll give it to you." | 2) doctor to patient |
| 3) angry father to son |

| judge to winner | 1) father to winner |
| "Congratulations." | 2) friend to winner |
| 3) loser to winner |

| proud father to friend | 1) envious girl to friend |
| "Look at her." | 2) delighted boy to friend |
| 3) admiring girl to friend |

| friend to friend | 1) angry mother to child |
| "What are you doing?" | 2) curious passer-by to artist |
| 3) teacher to busy student |

| man to parking lot attendant | 1) student to librarian |
| "That's mine." | 2) angry child to playmate |
| 3) busy shopper to salesgirl |

| waitress to customer | 1) psychiatrist to client |
| "May I help you?" | 2) passer-by to accident victim |
| 3) tourist guide to tourist |

| teacher to pupil | 1) wife to husband |
| "You can do better than that." | 2) mother to child |
| 3) employer to employee |

| policeman to suspect | 1) lawyer to witness |
| "You're lying." | 2) customer to salesman |
| 3) patient to doctor |

| dentist to patient | 1) mother to noisy child |
| "Shut your mouth." | 2) angry wife to husband |
| 3) policeman to complaining drunk |

| acquaintance to acquaintance | 1) mother to child |
| "I can't." | 2) customer to salesman |
| 3) secretary to boss |
STOP HERE

WAIT FOR FURTHER INSTRUCTIONS
Part II

3. doctor to patient
   "Take this."
   1) mother to son
   2) fighter to opponent
   3) salesgirl to customer

4. hard-of-hearing man to friend
   "Say that again."
   1) insulted man to acquaintance
   2) operator to person telephoning
   3) student to teacher

5. insurance salesman to customer
   "Sign here, please."
   1) hotel clerk to guest
   2) autograph hunter to celebrity
   3) bank teller to millionaire

6. father to son
   "I love you."
   1) brother to sister
   2) son to girl-friend
   3) nephew to aunt

7. mother to running child
   "Close the door."
   1) busy wife to husband
   2) girl to roommate
   3) angry boss to employee

8. child to bully
   "Leave me alone."
   1) grieving widow to friend
   2) annoyed man to salesman
   3) girl to unwanted boy-friend

9. girl-friend to boy-friend
   "No."
   1) mother to child
   2) friend to friend
   3) waiter to customer

10. husband to nagging wife
    "I'm tired of it."
    1) quitting employee to boss
    2) girl to jealous boy-friend
    3) eating child to mother

11. baby-sitter to noisy child
    "Stop it."
    1) driving instructor to pupil
    2) annoyed girl to boy-friend
    3) policeman to fighting teenager

12. parent to child
    "I don't think so."
    1) teacher to student
    2) student to teacher
    3) student to student

13. mother to salesman
    "I'm sorry."
    1) secretary to boss
    2) boss to secretary
    3) friend to friend

14. aunt to niece
    "Are you hurt?"
    1) driver to accident victim
    2) fireman to fire victim
    3) neighbor to child

Stop Here
WAIT FOR FURTHER INSTRUCTIONS
APPROVAL SHEET

The thesis submitted by Jeanne Kerschner has been read and approved by members of the Department of Psychology.

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

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

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DATE

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ADVISOR'S SIGNATURE