Empathy Levels of Occupational Therapy Students

(empathy, affective sensitivity, education)

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For occupational therapy educators to determine success at developing and/or maintaining among students empathy levels that are conducive to understanding and helping patients, educators must be able to measure changes in affective sensitivity. This paper briefly discusses methods of altering empathy levels and describes the use of Kagan's Affective Sensitivity Scale to measure changes in empathy levels of occupational therapy students. Students were evaluated before and after completing a clinical practicum and a group process course and again one year later. The first Level I clinical practicum did not have the anticipated impact upon empathy scores, but the group process approach might have positively affected empathy levels. The significance of permanent changes in empathy scores might correlate with the intensity of the group process course. Kagan's Affective Sensitivity Scale is useful for measuring changes in empathy levels.

Marilyn S. Page

A major concern of occupational therapy educators at The Ohio State University has been to establish and maintain in students a level of affective sensitivity, or empathy sufficient for understanding and helping patients. Students are required to complete a clinical experience as well as a group process course, both of which might possibly increase their empathy levels. To determine the effect of the two courses upon the affective sensitivity of the students, a study was designed in which the empathy levels were evaluated before and after completing the clinical practicum and the group process course.

According to the literature, group process was used in the early 1970s with a class of 12 occupational therapy students at the University of Puget Sound to train them for early involvement in professional roles (1); and a one-day experience in group dynamics in an occupational therapy assistant course in Wisconsin was designed to assist the students in becoming more aware of their impact on others and of their interaction in a group setting (2). Also, Delworth described a workshop that focused on interpersonal and communication skills to prepare occupational therapy students in facilitating emotional growth in patients (3). Posthuma argued strongly that interpersonal awareness could be taught, calling for the comprehensive establishment of processes in occupational therapy education to teach the development of interpersonal skills; she advocated the inclusion of small group sessions in personal awareness into curricula to solve the problem of therapists who find themselves unable to function optimally as professionals because of an inability to understand others (4). Christiansen also supported the incorporation of interpersonal skill requirements into the basic curriculum (5). Green-
stein, who evaluated attitude changes in students following such a clinical experience, found no significant belief changes following the experience (6), indicating that specific training might be necessary to affect empathy levels.

Interpersonal skills are taught through the use of intensive growth groups and the development of interviewing and interpersonal skills in work with clients. Carl Rogers, an avid advocate of human relations groups, believes that learning occurs better in such groups than in didactic situations. He thinks that in a group, where the teacher actively shares with the students, the learning has a significant impact on the learner and thus is permanent (7).

In a discussion of the impact of sensitivity groups, encounter groups, and other growth groups, Carl Goldberg stated that such groups are primarily concerned with providing a deeply felt experience that will create permanent change in individuals. Individuals voluntarily seek such groups to explore ways in which to better understand themselves and their interpersonal relationships. These groups require high interaction and involvement of the learners. The data for learning come from life experiences and immediate reactions of the members of the group. Participants are expected to integrate their learning into their new self-concepts individually (8).

Occupational therapy students at The Ohio State University must complete a group process course early in the professional curriculum. Its purpose is identifying, examining, and demonstrating the factors that facilitate or hinder small group functioning in practice. Some factors explored include covert and overt thoughts and feelings, behavior patterns, and verbal and nonverbal styles of communication.

Tests. Several testing devices have been developed and used to measure empathy levels (2, 5, 6, 9-15). Since the Affective Sensitivity Scale (ASS), developed by Norman Kagan, was recently under evaluation by the School of Allied Medical Professions at The Ohio State University, it was available for use. Form E of the scale was selected for this study because it is especially designed to measure the total empathy level of health professionals.

The ASS is designed to measure one's ability to identify the feelings of others, specifically clients engaged in receiving help. It consists of 65 multiple-choice questions pertaining to a series of vignettes of human interaction that are observed by the test taker. It has been revised several times. Earlier versions were found to be valid and reliable measures of empathy (15).

The total score possible on the ASS, Form E, is 65: one point is given for each correct response. In controlling for the practice effect of pretesting and post-testing, in a study involving a placebo group Kagan found the test scores to be unaffected by the testing process (16).

Procedure. A pretest (T1) was administered to all the students before they were exposed to the group process course or to the clinical practicum. They were tested a second time (T2) immediately after they had completed the group process course, at which time only half had completed the clinical practicum. The students were tested a third time one year after the first testing (T3). All completed tests were sent to Dr. Kagan for scoring. The test scores were then coded according to groups.

Analysis. The mean total scores obtained were analyzed. To check
Table 1
T1 and T2 Values for Total Number of Correct Answers

<table>
<thead>
<tr>
<th></th>
<th>Group I (452 only)</th>
<th>Group II (450/452)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>x</td>
<td>s</td>
</tr>
<tr>
<td>T1</td>
<td>28.76</td>
<td>4.13</td>
</tr>
<tr>
<td>T2</td>
<td>30.09</td>
<td>5.96</td>
</tr>
<tr>
<td>Total Counts</td>
<td>21</td>
<td>25</td>
</tr>
</tbody>
</table>

Results
Eighty percent of the students who completed T1 also completed T2. The mean scores of both Groups I and II exhibited a statistically significant difference, increasing by about 1.5 points with a probability of .037 (p > .05) and no within-subjects variability (Tables 1 and 2). Further analysis of the data revealed no statistically significant difference between the empathy changes of Group I and Group II (p > .05) and no between-subjects variability (Table 2).

Twenty-nine percent of the students who completed T1 and T2 also completed T3. A one-way analysis of variance performed between the T2 and T3 scores of those students revealed no significant difference between the T2 and T3 scores with no between-subject or within-subject interaction (p > .05) (Tables 3 and 4). Although the remaining 71 percent of the students who completed T2 did not complete T3, an analysis of variance showed no statistically significant difference between the T2 scores of the students who completed T3 as well as T2 and those who completed only T2 (p > .05). Hence, the T2 scores used for this study were believed to be a good representation of the T2 scores of the entire group.

Table 2
Analysis of Variance for T1 and T2

<table>
<thead>
<tr>
<th>Source</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>1</td>
<td>18.13</td>
<td>0.46</td>
<td>n.s.</td>
</tr>
<tr>
<td>Error (between subjects)</td>
<td>44</td>
<td>39.78</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1 - T2</td>
<td>1</td>
<td>49.10</td>
<td>4.61</td>
<td>0.04</td>
</tr>
<tr>
<td>Interaction (T1 - T2)</td>
<td>1</td>
<td>0.41</td>
<td>0.04</td>
<td>n.s.</td>
</tr>
<tr>
<td>Error (within subjects)</td>
<td>44</td>
<td>10.64</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

n.s. = not significant.

Table 3
T2 and T3 Values for Total Number of Correct Answers

<table>
<thead>
<tr>
<th></th>
<th>Groups I and II</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>x</td>
<td>s</td>
<td></td>
</tr>
<tr>
<td>T2</td>
<td>30.43</td>
<td>5.26</td>
</tr>
<tr>
<td>T3</td>
<td>32.36</td>
<td>3.77</td>
</tr>
<tr>
<td>Total Counts</td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>

For statistically significant changes in empathy levels immediately following the course as well as changes resulting from the clinical experience, the T1 and T2 mean scores were compared by using a 2-way analysis of variance with repeated measures on one factor. To check for statistically significant changes in empathy levels between T2 and T3, the students' T2 and T3 mean scores were compared by using an analysis of variance.

Since the statistical analysis involves an analysis of variance for repeated measures, there are two sources of error—between subjects and within subjects. The variability between groups is influenced by or is subject to between-subjects variability and was therefore tested against between-subjects error. However, differences between testings and the interaction are a result of within-subjects variability and were, therefore, tested against that error term.

Table 4
Analysis of Variance for T2 and T3

<table>
<thead>
<tr>
<th>Source</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Error (between subjects)</td>
<td>13</td>
<td>30.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T2 - T3</td>
<td>1</td>
<td>26.04</td>
<td>2.36</td>
<td>0.15</td>
</tr>
<tr>
<td>Error (within subjects)</td>
<td>13</td>
<td>11.04</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Discussion
Since the mean scores of both Groups I and II increased by the same amount, and Group II completed the clinical practicum while Group I did not, the completion of the clinical practicum did not result in an increase in empathy levels. These results do correlate, though indirectly, with the results found in the literature. Greenstein (6) found no significant belief changes in students during the first field experience. She used different testing instruments and measured authoritarianism, Machiavellianism, and dogmatism, whereas in this study empathy was measured. Still, the increase in empathy scores resulting from patient contact from the first clinical practicum did not occur as had been anticipated.

It is of interest that both Groups I and II exhibited a significant difference statistically between $T_1$ and $T_2$, and then no significant difference between $T_3$ and $T_4$. Because a control group was not available for the group process course, we cannot definitely conclude that the significant increase that occurred is a direct result of the impact of the course. However, the literature indicates that the increase might well be a direct result of that course. Also, since the students who completed $T_3$ ten months after they completed $T_2$ revealed no change whatsoever in empathy levels during that ten-month period, it seems doubtful that the change between $T_1$ and $T_2$ would be caused by factors other than the course, since the change stopped after the $T_2$ testing.

The group process course required of the students is by no means as intense as the groups advocated by Carl Rogers. More obvious increases in empathy levels might be noted if the method of instruction had been more purposefully designed to increase empathy levels.

One concern of this study was the mortality experienced between $T_2$ and $T_3$, which is a threat to internal validity. However, the $T_2$ scores of those students completing $T_3$, when compared to the $T_2$ scores of the remaining students, indicated that they were representative of the entire group, thus diminishing that threat.

Another limitation is the small percentage of students who completed all three tests. The fact that only 29 percent completed $T_3$ makes the statements concerning the long-term effect of the group process course uncertain.

Summary
Certain levels of empathy are vital to health professionals for understanding their patients. The Level I clinical practicum experienced by Ohio State University juniors did not have the anticipated impact upon their empathy scores, but a group process course, where it was possible to teach and evaluate empathy levels, might have positively affected the empathy levels of students.

Acknowledgments
The authors express their appreciation to Jean Powers, Ph.D., for her kind assistance with the statistical analysis of the data for this study, and to Dr. Norman Kagan for so generously computing the scores used in the study. The authors are also grateful to the participating students and for the support and feedback received from the Medical Technology and Occupational Therapy faculties of The Ohio State University. This study was based in part upon a thesis written by Bethany L. Wise, entitled "A Study to Evaluate Changes in Empathy Levels of Occupational Therapy Students Upon Completing Certain Requirements of their Curriculum."

REFERENCES

The American Journal of Occupational Therapy