Effects of Selected Activities on Affective Meaning in Psychiatric Patients

(human activities, mental disorders, occupational therapy, practice)

Ellen R. H. Kremer

Activities have remained the constant tool of the occupational therapy profession (1). The process occupational therapists use to ensure that activities are used therapeutically is activity analysis, the breaking down of each activity into its intrinsic properties, acquired characteristics, required tools, materials, and actions (2-4). Activity analysis assists the occupational therapist in assessing the patients' needs and in understanding activities in depth so that the appropriate treatment modality can be chosen.

Occupational therapists who work with chronic schizophrenic patients are aware of such patients' decreased occupational performance (that is, cognitive, perceptual, and motor deficits) (4-7). In addition, therapists see patients who seem unmotivated and unresponsive because of inappropriate or flat affect. Because of these problems, which are common to chronic psychiatric patients, occupational therapists have developed elaborate outlines for activity analysis that pay particular attention to the affective components of activities.

In 1948, Fidler (3) proposed an outline for activity analysis that included affective characteristics such as hostility, aggression, regressive features, and narcissism. In 1959, Azima and Azima (8) wrote that by using activity analysis, the occupational therapist can detect danger signals, regression-progression phases, changes in the organization of mood, and defense formations. Mosey's (4) object relation frame of reference explores symbolism, gratifications of needs, and control of impulses in analyzing the patient's affect. Cynkin (2) also examines feelings involved in the activity process.

Kielhofner (9) is concerned that occupational therapists fail to appreciate adequately the importance and role of meaning in human experience. Three specific factors of affective meaning (evaluation, power, and action) were effectively measured by the semantic differential, which measures the evaluation, power, and action factors of affective meaning. Data analysis revealed significant differences between the cooking activity and the other two activities on the evaluation factor. The fact that the three activities were rated differently is evidence that different activities can elicit different responses in one of the target populations of occupational therapy. The implications of these findings to occupational therapists are discussed and areas of future research are indicated.

Ellen R. H. Kremer, MS, OTR/L, is Assistant Director of Occupational Therapy, Haverford State Hospital, Haverford, PA 19041; David L. Nelson, PhD, OTR, is Associate Professor, Department of Occupational Therapy, Western Michigan University, Kalamazoo, MI 49008; and Linda W. Duncombe, MS, OTR, is Assistant Clinical Professor of Occupational Therapy, Sargent College of Allied Health Professions, Boston University, Boston, MA.
cept. Power is the measure of effect over the environment the rater assigns to a given concept. Action is the measure of movement the rater assigns to a given concept.

The volitional subsystem is defined by Kielhofner and Burke (14) as “the basic urge toward exploration and mastery of the environment together with growing symbolization of one-self acting in the world” (p 575). This subsystem of values and personal causation provides the basis for all development. A comparison with two measures in Osgood’s differential becomes possible. Kielhofner’s volition variables of value and personal causation can be interpreted as corresponding to Osgood’s measures of evaluation and power. Although correlation is not apparent between Kielhofner’s subsystems and Osgood’s action factor, energy expansion has been historically recognized for its importance in activity analysis.

In 1982, Nelson et al. (13) identified the semantic differential developed by Osgood (10) as an effective tool in measuring the affective components of activities. They found that the tool could detect differences and similarities between four different activities as rated by 59 occupational therapy students. They suggest that before therapists generalize the results of their study to occupational therapy practice, additional research including clinical populations is important (13, p 387).

Bleuler (15) suggests that if the patient with schizophrenia is to be habilitated, the therapist “must enter and feel with him his vision of reality.” (p vii) How do psychiatric patients feel about the activities commonly used in occupational therapy treatment? Can the therapist assume that the patient responds to activities in the same manner as a therapist? In a comparison between subjects with chronic schizophrenia and normal subjects on the learning of evaluative, potent, and active words, Satlter (16) found that normal subjects learned faster and recalled more evaluative words, whereas the schizophrenic subjects recalled a significantly greater number of potency words and fewer active and evaluative words. This causes one to wonder whether persons with schizophrenia also experience the evaluative, potent, and active words differently from the ways in which normal individuals experience them.

In a study exploring the psychological attributes of crafts, Smith et al. (17) asked four populations (therapists, tuberculosis patients, medical/surgical patients, and psychiatric patients) to rate nine craft concepts with a semantic differential. They found that the psychiatric patients tended to be more extreme in their judgments of potency and tended to rate the concepts as being more difficult than did the other three populations. Smith and colleagues found that the therapists agreed fairly well among themselves in their attitudes toward crafts (average correlation between pairs of raters on all crafts was .61) but that they differed from the patient groups. A limitation in this study is that not all subjects were equally familiar with all nine craft concepts. Subjects brought different meanings or no meanings to each of the concepts.

Terwilliger (18, p 129) criticized the semantic differential’s ability to measure affective meaning reliably because the semantic differential does not control the context in which a concept is used. As in the Nelson study when we used the semantic differential to measure affective meaning in four selected activities, we were able to control for the context in which their four concepts were used by having the subjects rate each activity concept immediately after having experienced the activity.

A review of the literature reveals certain problems inherent in conducting research with a psychiatric population. These have included a variability of response (19), mortality (20), effects of stimuli external to the independent variable on clients (21), and lack of an adequate control or comparison group (22-24). Although research with a psychiatric population is difficult, it is essential. In an attempt to avoid these problems, the primary researcher conducted the study in a relatively large setting in which there were 48 patients and used three groups that could be compared with each other. Each group was assigned to one of three activities: cooking, craft, or sensory awareness.

We hypothesized on an a priori basis that chronic psychiatric patients would rate cooking higher on the evaluation factor than the craft and sensory awareness activities. We also hypothesized that they would rate the craft and sensory awareness activities higher than the cooking activity on the power factor, and that they would rate the cooking activity slightly higher than the other two activities on the action factor. These hypotheses were based on clinical observations of similar patients in the activities used in this study, as
measured by patients' subjective responses to and their attendance in various activity groups regularly offered. The strength of the hypothesis on the evaluation factor is supported by chronic patients' observed preference for concrete activities leading to a product, especially when the product can be consumed.

Method
Subjects. The subject pool consisted of 48 chronic psychiatric patients participating in the Vinfen Quarterway Day Treatment Program, a privately funded program under contract with the Massachusetts Department of Mental Health. Admission criteria include patients' who require services to maintain an outpatient status but who are inappropriate or ineligible for other day programs in the area. Candidates generally are not accepted if they currently are assaultive or suicidal, carry alcohol or drug addiction as primary diagnoses, or are severely mentally retarded. Goals of the program include an increase in the levels of function in activities of daily living (ADL), socialization, and work skills.

Whereas the instrument to be used in this study requires a certain level of cognitive skill, the research plan called for the exclusion of those patients who had a history of severe brain damage. However, because of the occupational therapist's ethical commitment to the right of the patient to receive services (1, p 67) and the program's commitment to treat all patients within the setting, all Vinfen patients were given the opportunity to participate in the treatment activities. Twenty-eight subjects participated. Of these, three had histories of severe brain damage (frontal lobotomy, temporal lobe epilepsy, and senile dementia). Their data were not analyzed. In addition, three subjects (one from each group) terminated their participation in the procedure by leaving the room without giving reasons and by refusing to return when asked. Therefore, the results of 22 subjects were analyzed.

Of these 22 subjects, 12 were male and 10 were female. The average age was 49.6 years with a standard deviation of 12.8 years. The mean Global Assessment Scale (GAS) score was 32.7 with a standard deviation 8.3. All GAS scores, a measurement of functional level with 1 being the lowest level and 100 being the highest, were assigned to the subjects by a Quarterway staff member who was familiar with the day program patients. For example, a patient with a rating of 32 would show "major impairment in several areas such as work, family relations, judgment, thinking or mood, or some impairment in reality testing or communication, or a single serious suicide attempt ..." (25) Diagnoses included 18 with chronic schizophrenia, 3 with paranoid schizophrenia, and 1 with manic depressive illness.

Instrument. The semantic differential used in this study was first recommended by Osgood and colleagues (11) and is the same as was used by Nelson et al. (13). It consists of the 12 scales recommended by Osgood et al. for English usage (11, p 172). For each of these 12 scales, subjects were asked to assign a rating on a seven-point continuum (13, Figure 1).

Procedure. Subjects were randomly assigned to one of three groups. Each group was then randomly assigned to one of three activities: cooking, craft, or sensory awareness. The subjects were told on which day their group would meet (Tuesday, Wednesday, or Thursday of the same week). All groups met in the same room at the same time of day. The group leader for all three groups was a staff occupational therapist. This leader was unfamiliar with the research hypothesis. She received instructions from the principal investigator regarding the amount of direction to give each of the groups when leading the activities. The principal investigator was present as an observer when each group met.

Upon entering the room, subjects were given a consent form and cover letter explaining the purpose of the activity group. The letter was read aloud by the group leader, and questions raised were answered. Next, the subjects were told what activity had been assigned to their group. Each group then participated in its activity. After the activity, each subject was requested to complete a semantic differential form. Because some of the subjects did not complete the form independently, they were assisted by either the leader or principal investigator. For example, when referring to the first scale of the semantic differential, the leader would say, "Was it (the activity) nice or awful or somewhere in between?" The subject then would point to or mark a spot on the scale's continuum. In no instance was a correct response suggested or indicated.

Three activities were chosen for this study: a craft activity, a cooking activity, and a sensory awareness activity. These were selected because they are activities commonly used in occupational therapy treatment groups in men-
tal health settings, because they are different from each other in terms of their inherent characteristics, and because all can be completed within a single session. The cooking activity was cookies à la mode. The craft activity chosen was a collage. The sensory awareness activity consisted of exercise and group manipulation of a parachute.

Cooking activity. Subjects were instructed not to begin and group manipulation of a parallelogram. The sensory awareness activity consisted of exercise and group manipulation of a parachute. This was repeated until everyone had switched places. Next, two names were called out, and those subjects were instructed to walk on the parachute while the others caused it to ripple by lifting and lowering it slowly and gently. This, too, was repeated until everyone had a turn. The group activity ended with everyone lifting and lowering the parachute five more times. Anyone who chose not to participate in walking under or on the parachute did not have to. The leader and principal investigator did participate. This activity took 25 minutes.

Some of the attributes required by the sensory awareness activity were the abilities to cooperate in a group, to use gross motor skills, to follow structured verbal directions, to keep track of several steps simultaneously, to process sensory information, to work with an activity in which there is no choice of materials or sequence of activity, and to tolerate an outcome that is not tangible and not known even after the activity is completed.

Because each subject was randomly assigned to a group, the responses to the activities could be compared to each other in terms of the subjects' scores on Osgood's three factors of affective meaning (evaluation, power, and action). A score was derived for each of the three factors from each subject's semantic differential form. For example, a subject's 'power' score for his or her activity would consist of the sum of ratings on the "powerless-powerful," "weak-strong," "deep-shallow," and "big-little" scales. Thus the range of scores varied from 0, the lowest, to 24, the highest, on each factor of each activity; a score of 12 on each factor would indicate a neutral score.

Cooking activity. Subjects were told they would be making cookies à la mode. They were asked to volunteer for one of each of the following tasks: cookie bakers, oven timers, ice cream servers, or table setters. The cookie bakers were directed verbally and shown the written directions for making refrigerator roll cookies. The leader demonstrated once. The oven timers preheated the oven and told the bakers when the cookies were due to be removed from the oven. Ice cream servers were instructed to ask each person whether or not he or she wanted ice cream and to serve those who did. Table setters set the table with a tablecloth, napkins, paper plates, and plastic utensils while the cookies were in the oven. Subjects were instructed not to begin eating until everyone was served.

The activity took 35 minutes.

Some of the attributes required by the cooking activity were the abilities to participate autonomously, to follow unstructured directions, to be creative, to use small deliberate movements, to concentrate, to search, to cut, to arrange, to paste, to be able to work within boundaries, to tolerate a wide choice in design and materials, and to produce a product at the conclusion of the activity.

Craft activity. Each subject in this group made a collage. Subjects were seated around two tables. On these tables were large pieces of manila paper intended for use as the base of each collage; one pair of scissors and one cup of glue per subject; and magic markers, construction paper, yarn, foil, magazines, and pencils to be used and shared when making the collage. Subjects were instructed to spend 20 minutes to make a collage by using any of the materials on the tables. When five minutes remained, they were told to begin finishing the activity.

Some of the attributes required by the craft activity were the abilities to participate autonomously, to follow unstructured directions, to be creative, to use small deliberate movements, to concentrate, to search, to cut, to arrange, to paste, to be able to work within boundaries, to tolerate a wide choice in design and materials, and to produce a product at the conclusion of the activity.

Sensory awareness activity. Subjects were instructed to spend 20 minutes to make a collage by using any of the materials on the tables. When five minutes remained, they were told to begin finishing the activity.

Some of the attributes required by the craft activity were the abilities to participate autonomously, to follow unstructured directions, to be creative, to use small deliberate movements, to concentrate, to search, to cut, to arrange, to paste, to be able to work within boundaries, to tolerate a wide choice in design and materials, and to produce a product at the conclusion of the activity.

Sensory awareness activity. Subjects were instructed to stand in a circle. The leader demonstrated each of the following exercises once and then counted aloud as the group did them: four neck rolls (two to the right and two to the left); four shoulder lifts; one arm flex sequence ("put hands out, palms up," "make fist," "slowly flex at wrist," "slowly flex at elbow," "bring toward body," "slowly release," "shake out").

Next a parachute was spread out in the center of the circle. The subjects were instructed to lift and lower the parachute six times. While the parachute was elevated for the sixth time, the leader called out the names of two people on opposite sides of the parachute and instructed them to switch places by walking under the parachute after the activity is completed.
Results
Table 1 contains a description of the subjects as randomly assigned to the three groups. Only five subjects participated in Group C because two of the staff members who had been instrumental in encouraging patients to participate in the study were absent on the day Group C met. Random assignment led to little differences among the three groups in terms of age, $F(2, 19) = 1.26, p = .31$.

Evaluation Factor. Simple analysis of variance revealed significant differences among the three activities on the evaluation factor, $F(2, 19) = 4.66, p < .05$ (see Table 2). We had hypothesized that the cooking activity would be rated significantly higher than the other two activities on the evaluation factor. Orthogonal contrasts on this a priori hypothesis (26, p 74) determined that Group A (cooking) did indeed rate its activity on the evaluation factor significantly higher than both the other two groups (craft and sensory awareness), $t(18) = 3.06, p < .01$. There were no differences found between the craft and sensory awareness groups. Therefore, the 9 members of the cooking group rated the evaluation factor higher than the 13 members of the other groups.

Power Factor. The two groups that we hypothesized would record higher scores on the power factor (craft and sensory awareness) tended to do so, but the standard deviations were so large that the results did not approach statistical significance, $F(2, 19) = .50, p > .05$ (see Table 2).

Action Factor. No significant differences were found between the three activities on the action factor, $F(2, 19) = .64, p > .05$ (see Table 2).

After $F$ tests of the main research questions were completed, Pearson product-moment correlations (27) investigating the relationships among the three factors of affective meaning across all three groups ($n = 22$) were calculated. There was a significant positive correlation between the evaluation and action factors, $r(20) = .553, p < .01$. No significant correlation was found between the evaluation and power factors, $r(20) = .078, p > .05$, or the power and action factors, $r(20) = .285, p > .05$.

Discussion
Specific Findings. As hypothesized, the cooking activity was rated significantly highest of the three activities on the evaluation factor. Intuitively, occupational therapists have used food groups as a major part of any activity program but have not had research findings to support their doing so. A search of the literature for reference to cooking groups reveals little. In 1980, Helfman (28) highlighted four cooking groups that were part of an ADL program. She believed that psychiatric patients liked cooking groups (as evidenced by one group that attracted members even though there was a weekly fee), yet had no empirical data to prove her hypothesis.

Psychodynamic theory suggests that activities that involve preparation of food for self and others may assist patients in developing healthy sublimations for some of their oral needs (29, p 88). Having met these needs, the patients are satisfied. This feeling of satisfaction may have caused subjects in the cooking group to rate this activity high on the evaluation factor.
factor. An additional explanation might be Cynkin's (2, p 50) argument that it is important to have a definite product as the outcome of an activity. The fact that the cooking activity had a definite product as its outcome could account for the higher rating on the evaluation factor. The craft activity also had a definite product as the outcome of its activity. The subjects in the craft group, however, did not keep their completed products. Therefore, it might have been either the retention or the consumption of the end product rather than the fact that there was a definite end product that determined the difference between the ratings of the two activities on the evaluation factor. From an occupational behavior perspective, cooking could be viewed as an activity that is both age appropriate and culturally meaningful (30). Of the three activities used in this study, it can be argued that only the cooking activity had a concrete and understandable purpose that would explain its being meaningful and therefore valued (30).

No differences were found on the power or action factors. We had predicted that subjects would find significant differences on these factors but not differences as great as those to be found on the evaluation factor. The standard deviations for all factors and for all groups were large. This indicates a high degree of variance within groups, and nonfindings of significance may be due to unsystematic (unbiased) measurement error or to extreme individual differences. Hachey (19) cited variability as a problem in his study of schizophrenics. Although authors have indicated that the semantic differential could be used successfully with a psychiatric population (17, 31), their studies did not use only chronic patients as their subjects. Perhaps the chronic population used in this study had difficulty making the appropriate associations between the semantic differential’s scales and the activities. This might have resulted in failure of the semantic differential’s scales to detect subtle differences among activities, even though it was able to test large differences (as on the evaluation factor).

The subjects found all three of the activities relatively powerful (a score of 12 is a neutral score; see Table 2). This is not surprising since many of the subjects spend much of each day involved in passive activities, such as sitting in the lounge, rather than in therapy sessions, which might seem powerful to them. On the other hand, patients with schizophrenia might pay special attention to the power-related aspect of activity. This hypothesis is in line with Sattler’s (16) findings that schizophrenic persons were particularly interested in power-oriented words. Perhaps the cooking and collage activities were rated powerful in regard to the subjects’ feelings of personal causation, and the sensory awareness activity powerful in regard to the size and motion of the parachute.

The fact that the correlation between the evaluation factor and the action factor was high could indicate that the subjects liked activities that were fast or that they perceived the activity they liked as having been fast. A correlation does not delineate which factor is the cause and which is the result. This finding is different from the Nelson et al. (13) study that found no significant correlations among the three factors.

A limitation in the experimental design of this study is that all activities did not occur simultaneously. There is no reason, however, to think that the day of the week the activity occurred made any difference since the subjects were randomly assigned to the groups, the activities were randomly selected for each of the groups, the leader was the same for all the groups, and the groups were scheduled for the same time each day in the same room.

Broader Implications. This study is the first to show that different affective responses are elicited in a client population by different occupational therapy activities. The knowledge that different activities affect client populations in measurably different ways is a beginning step toward understanding the feelings (affective responses) that chronic psychiatric patients have toward activities commonly used in occupational therapy. The study also adds to our understanding of the use of activity analysis with a mental health population.

This study raises other research questions. Why did subjects in the cooking activity rate it high on the evaluation factor? Did the fact that this activity is socially and culturally appropriate and its process might seem powerful to them? On the other hand, patients with schizophrenia might pay special attention to the power-related aspect of activity. Might they have rated the activity high on the evaluation factor because they found eating to be appropriate? Would the subjects in the cooking group have rated the cooking activity high on the evaluation factor if they had not been allowed to eat the end product? Would they have rated cooking a...
nonsweet food (for example, soup) the same as they did a sweet food (cookies à la mode)? Did the role assumed by each member of the cooking group affect the scoring of the semantic differential? Did the fact that members of the cooking group worked cooperatively rather than autonomously or in parallel fashion affect the scoring? Would a less chronic population rate the three activities in the same manner?

All of these questions can be answered only by further research studies. Using a scale containing a behavioral observation component, either independently or in combination with the semantic differential, to measure affective meaning might yield even more fruitful results when conducting further research with this population.

Conclusion

Little research on the affective components of activities with chronic psychiatric populations has been done. This study is a beginning attempt to document the affective meanings that a particular patient population assigns to three commonly used activities, and it found that chronic psychiatric patients had different feelings about three different activities.

Acknowledgments

The authors acknowledge Sherry Jacobs Hashemi, MEd, OTR, for her assistance in leading the group sessions; Lois Santoian, MA, for her assistance in providing GAS scores; and the Quarterway Day Treatment Program staff for their assistance with data collection. This article is based on a study conducted as partial fulfillment of the requirements for Ellen Helfman Kremer's Master of Science Degree, Sargent College of Allied Health Professions, Boston University.

REFERENCES