Choice Making in Group and Individual Activity

( activity analysis, affective function, freedom of choice, group activity therapy, occupational therapy )

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A guiding premise of occupational therapy practice is that it is beneficial to allow clients freedom of choice in selecting and participating in activities. This study examined subjects’ affective responses to having or lacking freedom of choice in completing an activity and explored how those responses might differ when subjects did the activity in individual as opposed to group settings. Forty female undergraduate and graduate students participated in an origami activity under four different experimental conditions: a) individual-choice; b) individual-no choice; c) group-choice; and d) group-no choice. Afterward, each subject rated how she felt about herself while participating in the activity by using Osgood’s semantic differential designed to elicit responses in terms of three affective factors: evaluation, power, and activity. Data analysis revealed an interaction between the two independent variables on the power factor such that subjects who were not permitted choice responded significantly differently from those who were permitted choice only in the group setting. Implications of this finding for occupational therapy practice are discussed.

Purposeful activity and activity groups have been identified by Mosey (1) as legitimate tools of the profession of occupational therapy. Occupational therapists believe that activities require and promote physical, intellectual, and emotional abilities, and they use activities in treatment with the belief that purposeful, meaningful activity can influence the state of health of an individual (2, 3). Additionally, activity groups are thought to provide an opportunity to accomplish goals not emphasized in individual treatment (4, 5). By its nature, the occupational therapy treatment process is collaborative and requires active involvement on the part of the patient.

In order to use activities therapeutically, therapists must understand and appreciate the properties and characteristics of activities, and their impact on individuals. The process of examining an activity to distinguish its component parts is known as activity analysis (1). Mosey (1), Fidler (6), Cynkin (2), and Gillette (7) all identify an ongoing need for occupational therapists to engage in systematic analysis of activities in order to use them appropriately to meet treatment goals.

Only a limited number of studies have used a systematic, quantitative, and replicable approach to activity analysis. In an attempt to determine the ability of occupational therapists to define and measure “levels” of activity, Allard (8) presented a rating scale that incorporated a range of seven specific qualities frequently used to describe activities. She administered the scale to both occupational therapists and art teachers, and she found a higher degree of interrater reliability among the therapists in comparison to the teachers. Fox and Jirgal (9) reported on the efforts of the clinical council of the Wisconsin schools of occupational therapy to define se-
lected properties of occupational therapy activities and to develop a guide for the gradation of activities. They found a high degree of agreement (W = .80 or better) among 18 occupational therapists rating 10 activities on both physical and psychological characteristics.

In 1959, Smith et al. (10) attempted to identify the psychological attributes of craft activities. They developed a 20-item polar adjective rating scale based on Osgood's semantic differential, and they asked three groups of 12 patients each and one group of occupational therapists to rate nine activities. Their results indicated that different craft activities elicit clearly distinguishable affective responses, in addition to demonstrating that the psychological meaning of activities can be quantified and measured. A 1982 study by Nelson et al. (11) built on the work of Smith et al. (10) and extended the use of the semantic differential in analyzing the psychological characteristics of activities. However, whereas Smith et al. examined affective responses to names of activities, this study was concerned with subjects' affective responses to participation in activities. Fifty-nine beginning occupational therapy students participated in four activities and immediately afterward rated the activity using Osgood's 12-scale, short-form semantic differential. The results indicated that the four activities elicited significantly different affective responses on the evaluation, power, and activity factors of affective meaning.

When analyzing the affective responses that an individual has to participating in an activity, therapists must consider the differences between participating in a free-choice activity as opposed to a therapist-directed one. Freedom of choice in activities is an idea that has been advocated by several theorists in the field (12-14). Yerxa (12) argued that allowing patients to engage in self-directed activity is necessary to achieve occupational therapy's ultimate goal: the patient functioning in the environment with self-actualization. Burke (13) suggested that the occupational therapy treatment process be one in which individuals are encouraged to explore, try out, and define what they want. Kilhofner et al. (14) also identified freedom of choice in activities as an important aspect of the treatment process. By allowing patients to identify and pursue their own choices, therapists can take advantage of the patients' natural urge toward mastery of the environment and thus help them to develop a sense of personal causation.

In their descriptions of treatment programs for a variety of psychiatric patients, Bobis et al. (15), Shannon and Snortum (16), and Steele (17) have all identified beneficial effects from allowing patients some freedom in choosing activities. Howe (18) and Kuenstler (19) both described activity-based treatment groups for psychiatric patients in outpatient settings. Each author identified the benefits that patients derived from participating in a group where participation in the decision-making process was encouraged, and taking responsibility for choices was expected.

Only two studies by occupational therapists have attempted to address the impact of choice in a systematic way. In 1953, Taber et al. (20) investigated the effects of participation in a free-choice as opposed to a directed activity on the total adjustment of psychiatric patients. The results indicated that patients who participated in the free-choice activity showed greater progress toward "normal behavior" than did patients in the directed activity. A study by Niswander and Hyde (21) examined what activities patients chose, the needs they expressed in choosing them, and whether allowing patients to make their own choices was beneficial. Based on the data collected on 60 female patients, the authors concluded that permitting the patient to choose the activity produced more sustained interest, a higher quality of work, and less dependence on the therapist for approval.

In addition to considering the differences between choice and no choice in activity analysis, therapists must also consider the differences between group activities and individual activities. Zajonc's (22) theory of social facilitation postulates that the behavior of an individual is always influenced by the presence of others. Mosey (1) identified activity groups as providing opportunities for the constructive use of the nonhuman environment. She proposed that the shared need to master the nonhuman environment often assists patients in developing a sense of commonality with each other. Howe (18) and Kuenstler (19) also noted the potentially supportive nature of groups, which can help reduce a patient's sense of isolation. In 1969, Werner et al. (4) studied the differences between group-centered and individual treatment programs. They found that group-centered programs produced significant increases in social contact and interdepen-
dence among group members. Nelson et al. (5) noted that participation in group activities increased socialization, developed a feeling of belonging among members, increased awareness of others and the opportunity to exchange ideas, and increased self-confidence.

Research Problem
The following questions were investigated: 1) How will subjects respond to having choice in activity as opposed to not having choice in terms of their feelings about themselves, and 2) Will those responses differ when subjects participate in the activity in a group setting as opposed to engaging in the activity alone?

The semantic differential, which was first presented by Charles Osgood (23) in 1952 as a means of measuring the affective meaning of concepts, was used in this study to make subjects' affective responses operational. Osgood identified three factors of affective meaning that he believed had the most universal significance: evaluation, power, and activity (24). Evaluation relates to a person's positive or negative feelings about something. Power relates to a person's feelings of the magnitude of effect something potentially has on its environment. Activity relates to a person's feelings about the degree of movement or volatility associated with something (11).

Based on the literature reviewed, it was hypothesized that a choice by group interaction would occur such that subjects who were given no choice in completing the activity and did the activity in a group setting would have a significantly different (lower) response in terms of the power factor of affective meaning.

Methods
Subjects. The subjects in this study were drawn from the undergraduate and graduate student population of Sargent College of Allied Health Professions at Boston University and included students in the occupational therapy, physical therapy, and rehabilitation counseling programs. Forty-four female volunteers were randomly assigned to one of four groups, and the groups were randomly assigned to one of four experimental conditions: a) individual-choice, b) individual-no choice, c) group-choice, and d) group-no choice. Two subjects in the group-choice condition withdrew before beginning the experiment, and, therefore, two were dropped from the group-no choice condition. This left a total of 40 subjects: 11 subjects in each individual condition (groups 1 and 2) and 9 subjects in each group condition (groups 3 and 4). The distribution and mean age of subjects in each experimental condition is shown in Table 1.

Instrument. The semantic differential used in this study consisted of the 12 scales recommended by Osgood for English usage (25). Subjects were asked to assign a rating on a 7-point (from 0-6) scale for each of the 12 scales (see Figure 1). Four of the 12 scales are identified with each factor, and each set of four scales are added to arrive at an "evaluation" score, a "power" score, and an "activity" score for each subject. The possible source on any one factor ranges from 0 to 24.

Procedure. Origami, the ancient Japanese paper-folding craft, was chosen as the activity in which all subjects would participate. Origami was chosen because a single design can be completed quickly and because the activity allows for a variety of choices to be made by a participant. During the activity,
subjects in the choice conditions could choose to do up to five different origami designs using paper of various colors and sizes.

Each subject in group 1, the individual-choice condition, participated in the activity alone. The principal investigator was present in the room, but did not sit near the subject or directly observe the activity. Each subject was provided with all needed materials, including a written instruction form describing the activity and explaining what to do, written directions for five different origami designs, and a supply of origami paper in a wide variety of colors and in three different sizes. Subjects were informed by the written instructions that they could do as many or as few of the designs as they wished, but they were asked to do at least one. They were allotted 45 minutes for the activity. They were given no additional instructions or assistance by the investigator. At the end of 45 minutes, subjects were asked to rate how they felt about themselves while participating in the activity using the semantic differential. Again, subjects were provided with a written form describing how to complete the semantic differential. When each subject had completed the scales, all finished origami designs and the rating form were collected by the investigator.

Subjects in group 2, the individual-no choice condition, also participated in the activity alone with the investigator present. As with group 1, subjects were provided with all materials needed including written instruction forms, directions for origami foldings, and origami paper. Subjects in group 2, however, were given neither a choice of which origami designs they did nor a choice of the color or size of paper used. Instead, each subject in group 2 was directed, via the written instruction form, to make exactly the same origami designs as one of the subjects in group 1 had chosen to do. Thus, yoked pairs of subjects participated in exactly the same activity. When these subjects had been allotted 45 minutes to complete the activity, they were asked to respond to the semantic differential in the same manner as subjects in group 1. All origami designs and the rating form were collected by the investigator.

Data collection on subjects in group 3, the group-choice condition, and in group 4, the group-no choice condition, followed the same format as described for groups 1 and 2 respectively, with the exception that subjects in these two conditions participated in the activity in group settings. Thus, each subject in group 4 was assigned to make exactly the same origami designs as a subject in group 3 had chosen to do, again creating yoked pairs of subjects. Subjects in the group conditions were given no direction from the investigator to influence the amount or kind of interaction they could have with each other, and interaction among group members was ignored by the investigator. Therefore, subjects in the group conditions were free to help each other with designs or to comment on each other's designs if they so chose. These subjects were asked to respond to the semantic differential scales in the manner previously described.

Results

Analysis of the data revealed insignificant correlations on the dependent variables between the yoked pairs of subjects. Therefore, two-way (group x choice) analysis of variance was used to measure the effects of the four different experimental conditions on the evaluation, power, and activity factors of
affective meaning. The analysis revealed no significant main effects of interactions on either the evaluation factor or the activity factor. However, a significant interaction between the two independent variables was found on the power factor of affective meaning, $F(1,36) = 4.83, p < .05$, indicating that the subjects in the group-no choice condition (group 4) experienced themselves as significantly less powerful than other subjects (see Table 2).

A subsequent $F$ test for simple effects confirmed that there was a significant difference between the group-choice condition (group 3) and the group-no choice condition (group 4) on the power factor of affective meaning, $F(1,16) = 4.81, p < .05$, but that there was no significant difference between the individual-choice condition (group 1) and the individual-no choice condition (group 2) on the power factor, $F(1,20) = .49, p > .05$ (see Figure 2).

**Discussion**

Perhaps the primary implication of the results of this study is that individuals’ awareness of their power or lack of power in a given situation is influenced by environmental factors (such as the presence or absence of others). In this study, the power factor measured how much of an effect subjects perceived themselves to have on the environment while participating in the origami activity. Subjects who were not permitted choices in completing the activity perceived themselves as less powerful only when they participated in the activity in the presence of others in the same situation. Wicklund (26) proposed that the presence of others is one thing that can increase an individual’s self-awareness, and Scheier and Carver (27) found that heightened self-awareness increased an individual’s responsiveness to transient affective states. For subjects in the group-no choice condition, the presence of others was an environmental factor that heightened self-awareness and caused a transient affective state—powerlessness—to become more salient. The presence of others was, in effect, a feedback mechanism that provided additional information to subjects.

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**Table 2**

Mean Scores of the 4 Groups on the 3 Factors of Affective Meaning (total $n = 40$)

<table>
<thead>
<tr>
<th></th>
<th>Individual</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation Factor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Choice</td>
<td>13.8</td>
<td>11.8</td>
</tr>
<tr>
<td>No choice</td>
<td>13.3</td>
<td>11.1</td>
</tr>
<tr>
<td>Power Factor*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Choice</td>
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<td>13.1</td>
</tr>
<tr>
<td>No choice</td>
<td>12.0</td>
<td>9.4</td>
</tr>
<tr>
<td>Activity Factor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Choice</td>
<td>10.6</td>
<td>10.7</td>
</tr>
<tr>
<td>No choice</td>
<td>9.3</td>
<td>9.0</td>
</tr>
</tbody>
</table>

* Interaction between Choice vs. No choice and Individual vs. Group significant at the .05 level

**Figure 2**

Mean ratings of how subjects felt about themselves in terms of the affective factor of power after choice or not having choice in individual or group situations

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about their power. Subjects who lacked freedom of choice, but participated in the activity alone did not have this environmental factor (i.e., others in the same situation) to influence their perceptions of their freedom to make choices.

This finding has important implications for occupational therapy theory. The literature suggests that having a sense of self as a competent actor within the environment is partly dependent on autonomous functioning with freedom to make choices and that allowing patients to make choices during treatment helps to develop a sense of competency (13, 14). The results of this study indicate that allowing or not allowing freedom of choice can affect an individual's self-perception as having or not having power. Therapists need to be aware, however, that environmental factors also influence how powerful individuals perceive themselves to be. In the Model of Human Occupation (28), an individual's sense of personal causation—the image of the self as potentially powerful or powerless in interactions with the environment—is the guiding force that influences how and when an individual chooses to enact occupational behavior. Kielhofner et al. argue that therapists must structure the environment to enhance the patient's sense of personal causation (14). To enhance personal causation, the treatment process should involve not only allowing patients to have freedom of choice whenever possible, but should also include a feedback mechanism that makes a patient's power in a given situation more salient. This study suggests that group treatment may be one mechanism that provides such feedback.

The lack of significant differences on the evaluation and activity factors also merits discussion. The evaluation factor measured how positively or negatively subjects felt about themselves while participating in a time-limited activity in an isolated situation. The mean score across all 4 groups was a 12.6 on a scale of 0-24, revealing a 'neutral' response on this factor. The results suggest that choice or lack of it in an isolated situation does not influence how much individuals like themselves. Even those subjects who did feel less powerful than other subjects did not like themselves less than other subjects. Perhaps how positively or negatively persons regard themselves is a more deep-seated feeling that is related to their sense of self-esteem and is therefore not easily influenced by isolated situations. It seems logical that individuals can feel that they are not very powerful in a situation that they know is time limited and still continue to like themselves despite the temporary lack of power.

The activity factor measured the degree of movement that subjects perceived in each experimental situation. Origami is a highly structured activity involving small, deliberate movements and requiring a high degree of concentration and attention to detail. No significant differences were found among the four groups on the activity factor. Even though subjects in both group conditions were observed to interact spontaneously with each other and, at times, to assist each other with the designs, the results indicate that doing origami with others did not appear to cause subjects to perceive themselves as more active than those subjects who did the activity alone. This may suggest that there are some characteristics of activities that are relatively stable and not influenced by environmental factors.

These findings indicate the usefulness of the semantic differential in making subtle distinctions in its measurement of affective responses to participation in activities, and they lend support to the statement of Nelson et al. (11) that the semantic differential can be an effective tool for occupational therapists to use when attempting to identify the affective dimensions of activities. It appears increasingly likely that this sophisticated, yet easy-to-administer instrument will be useful in future research in occupational therapy and the analysis of activities.

Conclusion

Occupational therapists have long advocated allowing patients freedom of choice in activities. The primary goal of this study was to analyze the impact that allowing or denying freedom of choice might have on an individual, specifically in terms of affective responses. Further research might examine the following questions:

1) How does affective response to freedom of choice in activities vary across populations with regard to differences in age, sex, or clinical diagnosis?

2) How do subjects respond to having or not having freedom of choice in different types of activities?

3) Are there other environmental factors that might influence individuals' perceptions of their freedom of choice?

4) How might freedom of choice in activities affect other areas of human behavior, for example, learning or social interaction?

5) Does allowing freedom of
choice facilitate change during treatment?

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REFERENCES