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CONGRUENCE BETWEEN TYPE OF ACTIVITY AND VOLITION AND ITS RELATIONSHIP TO LIFE SATISFACTION IN NURSING HOME RESIDENTS

by

David De Noble

A Thesis
Submitted to the
Faculty of The Graduate College
in partial fulfillment of the
requirements for the
Degree of Master of Science
Department of Occupational Therapy

Western Michigan University
Kalamazoo, Michigan
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CONGRUENCE BETWEEN TYPE OF ACTIVITY AND VOLITION AND ITS RELATIONSHIP TO LIFE SATISFACTION IN NURSING HOME RESIDENTS

David De Noble, M.S.
Western Michigan University, 1987

This study examines the relationship between life satisfaction and the volition subsystem of 31 older adults who reside in nursing homes. Specifically, it attempts to measure congruence or the perception of the individual that the inherent characteristics of an activity "fit" his or her sense of personal causation, values and interests. The study examines the relationship between this congruence and life satisfaction.

Results of the study identified positive correlations between congruence and life satisfaction. Correlations between congruence of volition subsystem components and activity were at a statistically significant level (p < .05) for personal causation, values and total volition. Correlations between congruence of volition subsystem components and some specific activities were also found.
ACKNOWLEDGEMENTS

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I wish to dedicate this work to the memory of my maternal grandmother, Hester Vander Slik Huizer.

David De Noble
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Western Michigan University, 1987

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INTRODUCTION

Smith, Kielhofner and Watts (1986) recently examined the relationships among the status of the volition subsystem, activity pattern and life satisfaction in the elderly. The results identified significant correlations between the three components of the volition subsystem and life satisfaction. The volition subsystem is a conceptualization from the Model of Human Occupation (Kielhofner, 1985). The model defines the volition subsystem as:

An interrelated set of energizing and symbolic components which together determine conscious choice for occupational behavior. The energizing component is a generalized urge for exploration and mastery. The symbolic components are images (i.e. beliefs, recollections, convictions, expectations) which include personal causation, values and interests. (Kielhofner & Burke, 1985, p. 14)

The study also identified significant correlations between the overall activity pattern, "defined as the relative amount of work, daily living tasks, recreation, and rest in which an individual typically engages" (Smith et al., 1986, p. 278), and life satisfaction. It was determined that the amount of time spent in activities of work and recreation was positively correlated with life satisfaction. Time spent in daily living tasks or rest was negatively correlated with life satisfaction.

The study conducted by Smith et al. (1986) had subjects generate a list of activities in which they engaged on a typical day. The current study used a list of specific activities available to each subject. Smith et al. (1986) had subjects respond to each self-re-
ported activity by answering one question on each of the three symbolic components of the volition subsystem. The current study extended the previous study by measuring in greater detail the extent to which perceived characteristics of activities were in congruence with the characteristics of the volitional subsystem of the individual. The subjects responded to each activity by answering eleven questions based on all the aspects of the volition subsystem as developed in the Model of Human Occupation (see Appendix A). The relationship of such congruence with life satisfaction was determined.
Life Satisfaction

The measurement of life satisfaction in the elderly has been attempted in a number of studies (Adams, 1969; Neugarten, Havighurst & Tobin, 1961; Wood, Wylie & Sheafor, 1969). Two general approaches seem to be prevalent in the measurement of the variable of life satisfaction (Neugarten et al., 1961). One approach has attempted to measure satisfaction by noting overt behavior, such as the amount of participation in activity, and uses societal criteria of success. The other approach utilizes an internal frame of reference by examining the individual's subjective evaluation of his or her present and past life satisfaction.

Life satisfaction has been used as a measure of adaptation in the elderly (Gregory, 1983). It is influenced by a number of factors including involvement in activities (Gurland, 1980), but it does not seem to correlate with actual age (Kimel, 1974). Adaptation to aging "is positively related to variables indicative of general adjustment" (Williams, 1960, p. 290). Lawton (1972) refers to "a basic sense of satisfaction with oneself" (p. 148). He states that this includes a feeling that the individual has a place in his or her environment and that there is a fit between the needs of the individual and what the environment has to offer.

The scales utilized in most occupational therapy research, and the one chosen for this study, are those which use an internal frame
of reference. Gregory (1983) conducted a study with a group of 79 retirees which examined the relationship between occupational behavior, which was defined as the type, amount and significance of the activity to the individual, and life satisfaction. He used the score on an attitudes index which was part of an activities and attitudes inventory previously developed to measure adjustment and life satisfaction in the elderly. The index consisted of statements to which the subjects indicated agreement or disagreement. Duellman, Barris and Kielhofner (1986) used a combination of both the overt-behavior approach and the internal-frame-of-reference approach in measuring adaptation of nursing home residents. These researchers theorized that the status of the volition subsystem would be reflected in the individual's future time perspective and cited several studies which demonstrated significant relationships between future time perspective and life satisfaction. Values related to time are one aspect of the volition subsystem (Kielhofner & Burke, 1985). Duellman et al. (1986) used two instruments to measure future time perspective. One instrument was a revision of Heimberg's Future Time Perspective Inventory. This instrument is an attitudinal measure and seems to be designed from the internal-frame-of-reference perspective. The second instrument was part of the Role Checklist developed by Oakley, Kielhofner & Barris (Kielhofner, 1985). This instrument measures past, present and anticipated future participation in ten listed roles. Future time perspective was operationalized as the number of anticipated future roles checked by the subject. By operationalizing future time perspective in this way Duellman et al. (1986) seem to be utilizing a
perspective that notes overt behavior and focuses on what the person actually has or has not done in his or her life rather than on the individual's subjective evaluation of that life.

Yerxa and Baum (1986) conducted a study in which they compared 15 community-based subjects with spinal cord injuries subjects and 12 cohorts matched by age and sex on overall life satisfaction, as well as on other factors such as demographic characteristics, patterns of actual involvement in occupational behaviors, satisfaction with performance in home management and social/community problem-solving skills, and locus of control. Their study used two measures of overall life satisfaction, both of which used an internal frame of reference in their design. The results of the study showed no significant relationship between actual involvement in activity and overall life satisfaction, but did show significant positive correlations between how satisfied the individuals were with their performance in various occupational activities and their overall life satisfaction. This would seem to substantiate the view that the amount of actual participation in activity, which is a societal criterion, is not as significant in predicting overall life satisfaction as is the individual's degree of satisfaction with his or her performance in those activities.

Similar results were reported by Kirchmann (1986). She examined the correlations between general life satisfaction, as measured by subject responses on twelve semantic variables, and each of seven measures of present life satisfaction. These seven measures were: present job (for those employed), last job (for those unemployed), job
before retirement, leisure time, standard of living, savings and health. Kirchmann also measured actual participation in five areas of activity including basic self-care, communication skills, homemaking tasks, return to activities, and ambulation. Significant positive correlations were found between general life satisfaction and satisfaction with current job, leisure time, standard of living and health. No significant correlations were found between general life satisfaction and the other variables, including the measures of activity.

Activity

Activity can be defined as all forms of behavior (Lawton, 1983). Activity functions to meet the needs of the individual (Tickle & Yerxa, 1981a, 1981b). An individual’s needs "determine in part those aspects of the environment to which they attend, and respond, the direction in which efforts are expended and the amount of energy thrown into a task" (Kuhlen, 1968, p. 115). Activities possess characteristics or qualities that can meet these needs. The term "press" has been used to describe the qualities of an activity that elicit behavior designed to meet the needs of the individual (Lawton, 1983). The term has also been used in a similar fashion in the Model of Human Occupation (Barris, Kielhofner, Levine & Neville, 1985). In the model the concept of activity as an element of the environment has been incorporated in the term "task." Tasks are defined as any occupational activity—work, play or daily living task. Tasks are performed to satisfy external demands or internal motives and "consist of an aggregate of demand characteristics that emanate from several dimensions or
features. These dimensions include complexity, temporal boundaries, rules or structure, degree of seriousness/playfulness in performance, and the social nature of the task" (p. 49).

Research has indicated that "the need to be involved in meaningful and productive activities does not cease to exist despite age, physical and mental impairment, and prolonged hospitalization" (Pearman & Newman, 1968, p. 207). Older adults as a whole maintain relatively similar levels of activities as they age (Palmore & Luikart, 1972). A lack of activity can result in impairment of function and motivation and symptoms such as depression, hypochondria, restlessness, wandering, irritability, hostility, lack of enthusiasm, and aimless talking (Cautela, 1972; Williams, 1960).

Occupational therapists attempt to use activity to remediate loss of function and return to the individual the ability to master his or her environment (Howe & Briggs, 1982). In order to perform this function we must understand how the needs of the elderly are met by the activities in which they engage (Tickle & Yerxa, 1981a). We can examine both the objective aspects of the activity which include the duration, the frequency and the location of the behavior, and the subjective aspects, such as the need for and meaning of the activity (Lawton, 1983). The actual selection of particular activities by the elderly seems to be a process which includes both the objective and subjective aspects (Williams, 1960).

Measurement of activity and subject reaction to activity are generally elicited by presenting the subjects with a listing of activities or by allowing the subject to generate such a listing. Maguire
(1983) presented subjects with a listing of 40 activity categories and based her work on previous studies. Carp (1978) had her subjects keep an activity diary for a one-week period. Gregory (1983) presented his subjects with a list of 23 activities that he indicated were commonly engaged in by the elderly. He also provided space for subjects to enter up to three additional activities. Guttman (1973), in examining the leisure-time activity interests of both American-born and foreign-born Jewish elderly, used a list of 68 different activities that he found to be commonly offered by senior centers throughout the United States.

Activity has been correlated with life satisfaction (Duellman et al., 1986; Edwards & Klemmack, 1973; Kirchman, Reichenbach & Giambalvo, 1982; Lawton, 1972; Lemon, Bengston & Peterson, 1972; Palmore & Luikert, 1972). Smith et al. (1986) in a study with thirty older adults from a senior center and thirty from a nursing home found that individuals who had high scores on a measure of life satisfaction spent significantly more time in work and leisure activity and less time in activities of daily living and rest than did their counterparts who had low scores on life satisfaction. The relationship between levels of activity and life satisfaction are influenced by other factors, including intrinsic characteristics of the individual (Havighurst et al., 1968; Lemon et al., 1972). Activity that is meaningful in some way to the individual has a greater influence on life satisfaction than does activity that only fills up time (Williams, 1960).
Volition Subsystem

The Model of Human Occupation assumes the individual is an open system which interacts with the environment (Kielhofner, 1985). Within the model, the volition subsystem is the component of the individual that determines to which elements of the environment he or she will attend (see Appendix A for outline of volition subsystem). Volition includes a general urge for exploration and mastery and the symbolic components of personal causation, values and interests. A combination of this urge and the components is that which determines choice for engaging in activity (Kielhofner & Burke, 1985).

Personal causation is defined as the collection of beliefs one holds about oneself and one's ability to effectively manipulate or utilize elements of one's environment (Kielhofner & Burke, 1985). One of the aspects of personal causation is belief in internal as opposed to external control or "the individual's conviction that outcomes in life are related to personal actions . . . versus the actions of others (p. 16). Burke (1977) is of the opinion that the internally oriented individual tends to engage in more activity than the externally controlled individual. A second aspect of personal causation is belief in skills or "the person's conviction that he or she has a range of important abilities" (Kielhofner & Burke, 1985, p. 16). The third aspect of this component is a belief in the efficacy or usefulness of those skills to meet present and future needs. Without such conviction one feels worthless (Burke, 1977). The final aspect of personal causation is the expectancy of success or failure. This
aspect, like all aspects of personal causation, is determined by past experience. A perspective on all four aspects is needed to "allow the occupational therapist to assess the qualities inherent in the environment and within the individual that expand or limit independent environmental interaction" (Burke, 1977, p. 258).

Values are the second component in the volition subsystem. Values are viewed as conceptions of what is good, right, or important. Bengston and Lovejoy (1973) indicate that values "orient toward action" (p. 880). Inconsistencies between values and goals can result in poor performance, nonperformance or discomfort (Barris, 1982).

There are four aspects to the component of values as defined by the model (Kielhofner & Burke, 1985). The first is temporal orientation or how the person views him or herself in time and his or her beliefs of how time should be used. The second aspect is meaningfulness of activity or the "individual's disposition to find importance, security, worthiness and purpose in particular occupations" (p. 19). Occupational goals, defined as "objectives for personal accomplishments or for future occupational activities or roles" (p. 19), is the third aspect. The final aspect of the component of values is personal standards or the individual's commitment to performing activities in certain ways that are acceptable to the individual.

Interests are the final component of the volition subsystem. Interests are defined as "dispositions to find occupations pleasurable" (Kielhofner & Burke, 1985, p. 20). There are three aspects to this component. Discrimination is the "degree to which one differentiates a liking or expectation of enjoyment in certain occupations"
Pattern is "a configuration of occupations one is disposed to enjoy" (p. 21). Potency is "the degree to which interests are based on past experience and influence present action" (p. 22).

All components and aspects must be examined to fully understand the volitional status of the individual. The ways in which these components interact is complex and is an area needing further exploration (Kielhofner & Burke, 1985). A number of instruments have been developed to measure the aspects of the volition subsystem. Kielhofner (1985) includes an appendix which lists the instruments that have been developed based on the Model of Human Occupation. Of these, only four claim to measure all aspects of all three major components of the volition subsystem. All four have some applicability to an older population. The Occupational Case Analysis Interview and Rating Scale (Cubie & Kaplan, 1982) uses a semistructured interview with an ordinal rating scale to do a complete assessment of the status of all three subsystems, the system dynamics, the history of the system, the context and the system trajectory. This is a lengthy process that is not applicable in the present study. A similar approach is used in the Occupational Functioning Tool, now known as the Assessment of Occupational Functioning (Watts, Kielhofner, Bauer, Gregory & Valentine, 1986), in its modification, the Occupational Therapy Functional Screening Tool (Kielhofner, 1985), and in the Occupational Role History (Florey & Michelman, 1982).

Characteristics of one's volition subsystem develop over time. Older adults have been shown to continue to exercise choice in accordance with long established needs (Kimel, 1974). How one uses one's
time in activity "is a function of internalized values, interests and goals (Kielhofner, 1977, p. 239). The characteristics of the individual influence "the selective seeking or avoidance of particular environmental transactions [which influence], in turn, the range of possible experienced outcomes" (Golant, 1984, p. 121). How one views the outcome of that transaction depends on whether or not the outcome meets the expectations of the individual. Golant cites Kemper who proposed that "an individual's interpersonal relationships over his lifetime accumulate to provide a basis for subjective estimates of probable success or failure in any new interaction episode" (p. 126). It is likely that lifetime accumulation of experiences also affects other interactions with the environment such as choice of activities.

Studies have shown that increased opportunities to make choices results in greater participation in activity (Langer & Rodin, 1976). There is, however, little research on the link between "the meaning, preference and satisfaction associated with specific activities and the overt behavior, that is the time actually spent in these activities" (Lawton, 1983, p. 58).

Studies have shown a positive correlation between interests, values, personal causation and life satisfaction (Gregory, 1983; Maguire, 1983; Smith et al., 1986). This suggests that the enactment of volition, or the opportunity to make choices and to act on those choices, contributes to life satisfaction.
Congruence

Human behavior is the result of the interaction between the individual and his or her environment (Kahana, Liang & Felton, 1980). Individual responses to the environment are most effective if individual characteristics and environmental characteristics fit together (Barris, 1982; Kannegieter, 1980; Kimel, 1974; Pervin, 1968). Others have recognized a need to consider the individual/environmental fit in planning programs for older adults (Carp, 1978; Guttman, 1973; Kier- nat, 1982). Barris (1982) states that a perceived lack of fit results in the individual leaving or avoiding an environment. The Model of Human Occupation uses the term "arousal" to link volitional traits with properties of the environment (Barris et al., 1985). The level of arousal changes in response to features of the environment. Occupational therapists should seek to "create opportunities for clients to pursue former interests and it should provide continuity with their cultural backgrounds" (p. 61).

A number of theorists have examined this fit between the individual and the environment. The term "congruence" has been used to describe this fit. Carp (1978), in a study of person-environment congruence as it relates to activity, found that congruence of activity and individual needs is crucial to increasing the amount of activity involvement. Golant (1984) defines congruence as "an affective or cognitive state whereby the individual feels or thinks that he is in harmony with . . . his environment" (p. 125).

Congruence between person and environment affects life satisfac-
tion. Golant (1984) states:

It is unusual to find a measure of congruence proposed as a factor influencing an individual's responses to his environment. Congruence is usually a state to be explained rather than a state that provides an explanation. Its being proposed here as an influence of the types and meaningfulness of an older person's experiences emphasizes that an individual does not newly come to terms with his environment at every stage of his development. Throughout life, the individual is continually interacting with his environment, with the result that "goodness of fits" are always being established, and reestablished. One's feeling of accord with the lived-in environment are seldom a result of momentary relationships. (p. 125)

The effects of congruence have been examined. Congruence generally has a positive effect on the individual, whereas incongruence has a deleterious effect (Kahana et al., 1980). The term congruence is being used in the present study to denote a perceived fit between the characteristics of activities and the status of the volition subsystem of the individual.
HYPOTHESES

Four null hypotheses were tested: There is no significant correlation between life satisfaction as measured by the Life Satisfaction Index Z (see Appendix B) and the following variables as measured by the Activity Rating Questionnaire (see Appendix C): (a) congruence between the press of the activity and personal causation, (b) congruence between the press of the activity and values, (c) congruence between the press of the activity and interests, and (d) congruence between the press of the activity and total volition.

The study also examined whether there was a significant difference on the LSIZ score and on each of the four ARQ scores between groups based on the variables of location (LOC), age, sex, perceived level of income (INC), education, and length of stay in the nursing home (RES).
METHODOLOGY

Subjects

There were two sets of subjects in this study. One set of subjects was selected for the pilot study of the Activity Rating Questionnaire (ARQ) developed for this study. These subjects were selected from individuals participating in a community-based geriatric day program in Grand Rapids to which the researcher had access. These persons were:

a) 60 years of age or older.
b) Participants in the day program, attending two to five days per week for at least one month prior to the study.
c) Able to understand and consent to participate in this study.

These subjects were identified by day program staff. Six subjects who met the above criteria and consented to participate were selected.

The second set of subjects was selected for the full research. Thirty-one subjects were selected from individuals residing in nursing homes in the Grand Rapids area. Potential subjects were identified by nursing home staff as those:

a) Being 60 years of age or older.
b) Having resided in the nursing home for at least one month prior to the study.
c) Being able to understand and consent to participate in this study.

All subjects in both the pilot study and the full study signed a consent form before participating (see Appendices D and E).

Instrumentation

Pilot study

One of the three instruments used in the full study was developed in the pilot study. The intent of the pilot study was to determine the test-retest reliability of the Activity Rating Questionnaire (ARQ). The instrument was based on the Model of Human Occupation and attempted to solicit information regarding the match or congruence between characteristics of activities as perceived by the subjects and aspects of the subjects' volition subsystems. The instrument is composed of 11 pairs of statements in a forced choice format. As Scott (1968) indicates "the aim of the forced choice technique is to increase the discriminatory power of an item by obtaining approximately equal proportions of acceptances and rejections. This salvages many items which would otherwise be discarded for lack of discrimination" (p. 212). Each of the pairs of statements is related to one aspect of a component of the volition subsystem. The wording of each pair stems directly from the definitions of the aspects of the volition subsystem (see Appendix A for definitions and page references). The first four pairs relate to the four aspects of personal causation. The second four pairs relate to the four aspects of values. The last three pairs
relate to the three aspects of interests. In a forced choice format one of each pair "always represents a particular attribute that is of focal interest" (Scott, 1968, p. 219). In this case that attribute is "congruence" and the first statement of each pair is worded in such a way as to indicate congruence between the activity and the individual and the second statement of each pair is worded to indicate incongruence.

Each subject responded to these statements in order to rate each activity from a list of activities that the subject had available to him or her (see Appendices F and G for complete information on the generation of the list of activities). The subject chose the one statement of each pair of statements that most closely indicated his or her reaction to each of the activities.

Scoring of this instrument involved a number of steps. First a score of 1 for each statement of congruence selected and a score of 0 for each statement of incongruence selected or for each pair left unmarked was assigned. Then scores for each of the three components were totaled. Scores for all statements were also totaled, resulting in the following four scores for each activity: (1) a score of 0 to 4 for personal causation (PC), (2) a score of 0 to 4 for values (V), (3) a score of 0 to 3 for interests (I) and (4) a score of 0 to 11 for total volition (TV). The higher scores indicate greater congruence between that activity and the individual characteristics of the volition subsystem of the subject.

The four scores for each activity were then totaled. This yielded four composite scores (e.g., the composite personal causation score
is the sum of the personal causation scores for each activity). Each of the composite scores were correlated with the life satisfaction score.

**Full Study**

In addition to the ARQ, two other instruments were used in the full research project. The first was the Demographic Information Form (DIF; see Appendix H). This is a short form developed for this study and solicits basic information about the subject. The other was the Life Satisfaction Index Z (LSIZ), a self-report measure of life satisfaction used with older adults (Wood et al., 1969). There are thirteen statements on this instrument to which the subjects must agree or disagree. An undecided response is also permitted. Scoring is as follows: two (2) points for each "right" answer (right answers are "Agree" on items 1, 2, 4, 5, 7, 8, 9 and 12; "Disagree on items 3, 6, 10, 11 and 13); one (1) point for each "Undecided" or for no response; and zero (0) points for each wrong answer. Total scores range from 0 to 26. The higher scores indicate the greater life satisfaction. The Life Satisfaction Index-Z (LSIZ) is the most frequently used measure of morale or life satisfaction in older adults and has had the most careful psychometric derivation (Lawton, 1977). It is recommended for use with normally responsive subjects when examining a single, general criterion of life satisfaction (Adams, 1969; Wood et al., 1969). The LSIZ has a split-half reliability of .79 (Wood et al., 1969) and has some evidence of concurrent validity (Lohman, 1977). This particular measure has been used in a study conducted by Watts et al. (1986) to
develop the Assessment of Occupational Functioning (AOF). The LSIZ was used as one of two measures of concurrent validity for the AOF.

**Procedure**

**Pilot study**

The researcher met with day program staff to generate a list of activities to which all program participants had access. Activities were grouped (i.e., birthday parties, seasonal parties, etc. were grouped as "parties") to keep the list to a manageable length. The list was limited to 15 activities for the purpose of the pilot study.

After reading and signing a consent form, subjects were asked to "rate" each activity by responding to the paired statements on the ARQ. In the event the subject was unable to sign his or her name, the subject made his or her mark on the consent form which was then signed by one witness. Subjects who had been identified by the day program staff as unable to read or complete the ARQ due to physical impairment, such as visual loss, or due to lack of education had the statements read to them and their responses were recorded by the researcher. Completion of the form occurred in any case in a quiet room in which only the subject and the researcher were present (see Appendix F for complete protocol). Immediately after the completion of the ARQ information was solicited from the subjects regarding their reactions to the form and any suggestions they may have had for improvements.

One to two weeks later the identical instrument was administered to the same subjects for the purpose of determining test-retest relia-
bility. In each administration a tally sheet (see Appendix I) was kept of the type and frequency of assistance needed by each subject for each item of the ARQ. The information generated by the tally sheet was used to modify both the form and the administration procedures prior to the full study.

**Full study.**

The researcher met with staff at each nursing home to generate a list of activities to which the residents of the nursing home had access. The activity lists from each nursing home were reviewed and activities common to all the nursing homes were selected to form the list of activities presented to the subjects. Again activities were grouped and the number limited in order to reduce the chances of fatiguing the subjects. The exact number of activities used was based on the results of the pilot study and the number of activities found to be common to all the nursing homes which had residents participating in the study. Six activities were ultimately chosen: (1) arts and crafts, (2) exercises, (3) parties, (4) attending church services, (5) sing-alongs and (6) Bingo.

After reading and signing the consent forms, the subjects were asked to complete the three questionnaires. The same informed consent procedures described above were used in the full study.
Data Analysis

Pilot study

To determine test-retest reliability nonparametric statistics were used. This level of statistic was selected since there was a lack of a normal distribution in the population due to the method of subject selection. Total volition scores, as well as scores for the subcomponents of personal causation, values and interests were tested for reliability coefficients using Spearman's rank correlation coefficients with the SPSS package on the DEC-10 system at Western Michigan University.

Full study

Nonparametric statistics were used due to a lack of normal distribution in the population. Each null hypothesis was tested using the Spearman rank correlation coefficient. Significant differences between groups based on sex and on age (60 to 74 years of age and 75 years of age and older) were determined using the Mann-Whitney test. Significant differences between groups based on perceived level of income (less than adequate, adequate, more than adequate); on education (no formal education, 1st through 8th grade, 9th through 12th grade, and beyond 12th grade); on length of stay in the nursing home (1 through 6 months, 7 through 12 months, 13 through 24 months and 25 months or more); and on location of subject by nursing home (five homes participating) were determined using the Kruskal-Wallis test.
The SPSS package on the DEC-10 system at Western Michigan University was used.
RESULTS

Pilot Study

The test-retest reliability for the ARQ was determined in the pilot study. The instrument was administered twice, two weeks apart, to six older adults. Spearman correlation coefficients were obtained on all four scores of the ARQ. The correlations were .94 (p = .002) for personal causation, 1.00 (p = .001) for values, .85 (p = .015) for interests and .94 (p = .002) for total volition. These results indicate that the ARQ has an high level of reliability.

Full Study

The demographic characteristics of the subjects appear in Table 1. Thirty-one subjects were drawn from five different nursing homes. Seven of the subjects were male and twenty-four were female. The ages of the subjects ranged from 60 years to 93 years with a mean age of 81.1 years. Most individuals (77.4%) considered their income to be adequate to meet their needs, while only 19.4% considered their income to be less than adequate and 3.2% felt that their income was more than adequate. The educational level achieved by the subjects varied. Most subjects (71%) had received schooling beyond the eighth grade with 32.4% having gone beyond the twelfth grade. This included trade or business schools as well as colleges, with two individuals having taken courses towards advanced degrees. The length of stay in the nursing home for these subjects ranged from one month to thirteen
Table 1

Characteristics of 31 Subjects in Full Study

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>7</td>
<td>22.6</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>77.4</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60 to 74</td>
<td>7</td>
<td>22.6</td>
</tr>
<tr>
<td>75+</td>
<td>24</td>
<td>77.4</td>
</tr>
<tr>
<td><strong>Income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than adequate</td>
<td>6</td>
<td>19.4</td>
</tr>
<tr>
<td>Adequate</td>
<td>24</td>
<td>77.4</td>
</tr>
<tr>
<td>More than adequate</td>
<td>1</td>
<td>3.2</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No formal education</td>
<td>1</td>
<td>3.2</td>
</tr>
<tr>
<td>1st through 8th grade</td>
<td>8</td>
<td>25.8</td>
</tr>
<tr>
<td>9th through 12th grade</td>
<td>12</td>
<td>38.7</td>
</tr>
<tr>
<td>Beyond 12th grade</td>
<td>10</td>
<td>32.3</td>
</tr>
<tr>
<td><strong>Location</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing home #1</td>
<td>6</td>
<td>19.4</td>
</tr>
<tr>
<td>Nursing home #2</td>
<td>6</td>
<td>19.4</td>
</tr>
<tr>
<td>Nursing home #3</td>
<td>6</td>
<td>19.4</td>
</tr>
<tr>
<td>Nursing home #4</td>
<td>5</td>
<td>16.1</td>
</tr>
<tr>
<td>Nursing home #5</td>
<td>8</td>
<td>25.8</td>
</tr>
<tr>
<td><strong>Length of stay in nursing home</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 to 6 months</td>
<td>8</td>
<td>25.8</td>
</tr>
<tr>
<td>7 to 12 months</td>
<td>3</td>
<td>9.7</td>
</tr>
<tr>
<td>13 to 24 months</td>
<td>5</td>
<td>16.1</td>
</tr>
<tr>
<td>25+ months</td>
<td>15</td>
<td>48.4</td>
</tr>
</tbody>
</table>
years, with a mean length of stay of three years and one month. Al­
most half of the subjects (48.4%) had been in the nursing home for 
more than two years.

Table 2 contains the results of the Spearman correlations between 
life satisfaction and the scores of the ARQ for each of the six acti­
vities and for the total scores. Positive correlations were found 
between life satisfaction and all four total scores of the ARQ. The 
correlations were .41 (p = .011) for personal causation, .43 (p = 
.008) for values, .23 (p = .112) for interests and .41 (p = .012) for 
total volition. Only the correlation between life satisfaction and 
interests was not at the p < .05 level of significance; the other 
three correlations were statistically significant. Based on these 
findings, three of the four null hypotheses can be rejected.

In examining correlations with life satisfaction for the individ­
ual activities, statistically significant positive correlations on all 
four scores of the ARQ were found for exercises. Significant positive 
correlations were found on all but the interest score for attending 
church services. Significant positive correlations were also found on 
the personal causation score for parties and on the values score for 
sing-alongs. No significant correlations were found for arts and 
crafts or Bingo.

Initially the Mann-Whitney U test was used to determine if there 
were significant differences in the ranks of scores on the LSIZ and of 
total scores of the ARQ between groupings of subjects based on age­ 
group and sex. No significance differences were found except on the 
total interest score of the ARQ based on sex (U = 42.5, p = .048).
Table 2

Correlations of Life Satisfaction with Volition by Activity

<table>
<thead>
<tr>
<th>Activity</th>
<th>Personal Causation</th>
<th>Values</th>
<th>Interests</th>
<th>Total Volition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; crafts</td>
<td>.18</td>
<td>.15</td>
<td>-.03</td>
<td>.14</td>
</tr>
<tr>
<td></td>
<td>.171</td>
<td>.218</td>
<td>.448</td>
<td>.230</td>
</tr>
<tr>
<td>Exercises</td>
<td>.32</td>
<td>.54</td>
<td>.31</td>
<td>.49</td>
</tr>
<tr>
<td></td>
<td>.038</td>
<td>.001</td>
<td>.045</td>
<td>.003</td>
</tr>
<tr>
<td>Parties</td>
<td>.34</td>
<td>.29</td>
<td>-.05</td>
<td>.27</td>
</tr>
<tr>
<td></td>
<td>.031</td>
<td>.055</td>
<td>.395</td>
<td>.071</td>
</tr>
<tr>
<td>Church services</td>
<td>.32</td>
<td>.42</td>
<td>.10</td>
<td>.39</td>
</tr>
<tr>
<td></td>
<td>.038</td>
<td>.009</td>
<td>.288</td>
<td>.016</td>
</tr>
<tr>
<td>Sing-alongs</td>
<td>.30</td>
<td>.40</td>
<td>.21</td>
<td>.22</td>
</tr>
<tr>
<td></td>
<td>.052</td>
<td>.013</td>
<td>.132</td>
<td>.119</td>
</tr>
<tr>
<td>Bingo</td>
<td>-.04</td>
<td>.10</td>
<td>.12</td>
<td>.11</td>
</tr>
<tr>
<td></td>
<td>.416</td>
<td>.290</td>
<td>.254</td>
<td>.283</td>
</tr>
<tr>
<td>Total</td>
<td>.41</td>
<td>.43</td>
<td>.23</td>
<td>.41</td>
</tr>
<tr>
<td></td>
<td>.011</td>
<td>.008</td>
<td>.112</td>
<td>.012</td>
</tr>
</tbody>
</table>
The data indicated that the women tended to score higher on this score than the men did. The results of the Mann-Whitney U test were also examined to determine differences between groups based on sex and age group for scores on the individual activities. Although some significant differences were found on particular scores for several of the activities, this examination failed to determine any pattern of differences. Those scores on which significant differences were found are listed in Table 3.

Since approximately half of the subjects had been in the nursing home for more than two years (range 2 to 13 years), the length of stay variable (RES), which originally had four values, was recomputed into a variable with two values (RESLEV). These values were 6 months to 24 months and 25 months or more. Based on this grouping significant differences in the ranks of scores for a few of the activities were found (see Table 3), but these were not reflected in the total scores.

Individuals were also grouped according to scores on the LSIZ. Those scoring at or below the mean score were classified as low scorers and those scoring at greater than the mean were classified as high scorers. A new variable (LSLEV) was computed with two values, low scorers and high scorers. Results of the Mann Whitney U test based on this grouping indicated significant differences on some individual activity scores and significant differences on the total personal causation ($U = 68.5, p = .04$) and on the total values scores ($U = 63.5, p = .02$). Individuals classified as high life satisfaction scorers received higher scores on these measures than those classified as low life satisfaction scorers.
<table>
<thead>
<tr>
<th>Group</th>
<th>ARQ Score</th>
<th>Activity</th>
<th>U</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEX</td>
<td>Interests</td>
<td>Arts &amp; crafts</td>
<td>31.0</td>
<td>.011</td>
</tr>
<tr>
<td>SEX</td>
<td>Interests</td>
<td>Sing-alongs</td>
<td>23.0</td>
<td>.003</td>
</tr>
<tr>
<td>RESLEV</td>
<td>Personal Causation</td>
<td>Arts &amp; crafts</td>
<td>54.5</td>
<td>.008</td>
</tr>
<tr>
<td>RESLEV</td>
<td>Values</td>
<td>Arts &amp; crafts</td>
<td>65.5</td>
<td>.030</td>
</tr>
<tr>
<td>RESLEV</td>
<td>Interests</td>
<td>Arts &amp; crafts</td>
<td>64.0</td>
<td>.027</td>
</tr>
<tr>
<td>RESLEV</td>
<td>Interests</td>
<td>Bingo</td>
<td>69.5</td>
<td>.045</td>
</tr>
<tr>
<td>RESLEV</td>
<td>Total Volition</td>
<td>Arts &amp; crafts</td>
<td>48.5</td>
<td>.004</td>
</tr>
<tr>
<td>LSLEV</td>
<td>Personal Causation</td>
<td>Exercises</td>
<td>62.0</td>
<td>.022</td>
</tr>
<tr>
<td>LSLEV</td>
<td>Values</td>
<td>Exercises</td>
<td>35.5</td>
<td>.000</td>
</tr>
<tr>
<td>LSLEV</td>
<td>Total Volition</td>
<td>Exercises</td>
<td>45.5</td>
<td>.002</td>
</tr>
</tbody>
</table>

RESLEV—a variable related to length of stay in the nursing home with two values: (a) 1 month to 23 months and (b) 24 months or more.

LSLEV—a variable related to scores on the LSIZ with two values: (a) scores at or below the mean and (b) scores above the mean.
The Kruskal-Wallis test was used to examine the data for differences among the ranks of scores among groups based on length of stay in the nursing home (RES), perception of the adequacy of income (INC), the nursing home in which the individual lived (LOC), and educational level attained (EDUC). A significant difference was found on the total volition score for arts and crafts on the basis of length of stay in the nursing home ($H = 8.15, p = .04$). No other significant differences were found.
DISCUSSION

This study had several limitations. First, it did not use a random sample. Subjects were selected from all of the residents of the nursing home who met the selection criteria. The selection was made by the activity director in the nursing home. In spite of the fact that the researcher explained that the study was not intended to evaluate how well the activity director did her job, it is possible that an activity director might have perceived the study in that way and selected subjects in such a way as to include only those individuals who would give the researcher the most favorable impression of the nursing home and/or its activity program. Also the selection criteria insured that only the more alert residents would be included in the study.

An additional limitation is to be found in the research design because information on the actual participation in any of the activities was not collected. Although during data collection subjects frequently commented on whether or not they actually performed the activity, this information was not recorded. It is likely that the actual amount of participation in the activities could have had an influence on the scores on the ARQ and/or the score on the LSIZ. Another factor which was not considered was the presence or absence of any handicapping condition that might have influenced either the individual's ability to participate in the activity or the individual's inclination to find congruence between him or herself and the activity. Future
research should collect data on and attempt to control for actual participation in the activities and the presence of handicapping conditions.

The results of this study indicate that congruence between the characteristics of an activity as they are perceived by an individual and the status of the volition subsystem of that individual is positively correlated with life satisfaction. The overall scores of congruence for personal causation, values, and total volition reflect significant positive moderate correlations with the life satisfaction score. The interest score was only mildly correlated with life satisfaction and was not at an acceptable level of significance. The fact that the strength of these correlations is not particularly high might be due to the multiplicity of factors that influence life satisfaction (Gurland, 1980).

These findings generally support the research completed by Smith et al. (1986), although that research showed a statistically significant relationship between interests and life satisfaction. It is possible that the current study, by examining the components of the volition subsystem in more detail than the study done by Smith et al. (1986), may be more sensitive and discriminating about the relative influence of interests on life satisfaction in nursing home residents. If this is the case, an individual's interests may not be as important in his or her perception of an activity as are his or her sense of personal causation or value system. These results have important implications for occupational therapists. Occupational therapists use interest checklists with their clients to help determine, among other
things, appropriate activities to utilize in treatment (Rogers, 1983). The selection of activities for treatment might be more soundly based on the determination of how the particular activity "fits" with the individual's sense of personal causation and values rather than just on the individual's expressed interests. The Model of Human Occupation provides both a framework that prompts the therapist to examine the values and the sense of control of the client and a way to interpret the influence of these factors on the client's choice of activity.

When examining the correlations found between life satisfaction and individual activity scores as opposed to total scores, one is likely to become extremely speculative in attempting to explain why only certain activities seemed to show a relationship with life satisfaction while others did not. For example, the activity of exercises had significant correlations with life satisfaction on all four scores of the ARQ. This could be interpreted to mean that individuals who developed or maintained a level of physical activity in old age tended to adapt better and be more satisfied with their lives than individuals who remained or became sedentary. This interpretation certainly would be consistent with findings about the health benefits of exercise (Ostrow, 1984).

Another activity which showed statistically significant correlations in three of the four scores was that of attending church services. The presentation of this activity met with the most consistently favorable responses on the part of most of the subjects. All but two subjects indicated that church attendance was either an acti-
vity that had lifelong importance for them or was one which developed importance as they aged. All of the individuals who indicated the latter also expressed regret that they had not "paid more attention" to church when they were younger. The finding of correlations of this activity with life satisfaction is consistent with other research. Palmore and Luikert (1972) found that "organizational activity, a simple sum of the number of church and other meetings attended per month" was the variable showing the second strongest correlation with life satisfaction (pp. 73-74). In the nursing home attendance at church services may be one of the few opportunities for "organizational activity" available to the residents. However, data on the church attendance history of these subjects was not collected. Future research should attempt to control for this variable.

The activity of parties showed significant correlations with personal causation and the activity of sing-alongs with values. Again explanations of this are at most highly speculative. In many cases in which parties were favorably responded to the subject also expressed that they had in the past been involved in the planning and implementation of parties as well as attending parties as guests. Currently they have little role to play in the planning and for the most part are rather passive recipients of someone else's planning of a social event. Mention of a sing-along frequently evoked memories of family and church, two environments in which this activity had been experienced in the past. Perhaps the correlation with values for this activity is related to values regarding family and church that these subjects seem to hold.
It is interesting to note that the two activities that showed no significant correlations on any score, arts and crafts and Bingo, are the two activities most often offered to residents in the nursing homes participating in the study. In obtaining lists of activities it seemed that more units of these two activities were offered to residents in a week than any other activity with the possible exception of reality orientation. (Reality orientation was not selected as an activity in the study because it was felt that the term would not be easily connected to the activity by the subjects.) However, data on the frequency of the opportunity to participate in any activity was not collected in this study, so the impression that arts and crafts and Bingo were the most frequently available activities is merely the impression of the researcher. Further research could use different activities than were utilized in this study to determine whether other specific activities evoke responses of congruence from this population.

The Mann-Whitney U test indicated a statistically significant difference in the ranks of scores between groups based on sex. An examination of the data indicated that the women tended to score higher on the interest portion of the ARQ than did the men. One could contend that the reason for this is that the individuals responsible for planning activities in nursing homes are women and so design activities that are more consistent with a traditionally feminine role. One could also contend that since the majority of the older population and hence the majority of the nursing population are women that it is appropriate that the activities available are more appealing to women.
Another possibility for the differences in scores between men and women is that most women in this age group have developed different leisure time skills and more varied leisure time interests than men. Many of the women who participated in this study, when considering an activity such as arts and crafts, related stories of having participated in this type of activity with their children when they were young. Many also related this type of activity to specific activities like sewing which were performed as part of the homemaker role that most of these women filled when they were younger. Those activities which were once considered work have been carried over into leisure activities for many of these women. The men may have either not developed leisure time skills or interests when younger or had developed skills and interests in activities that do not readily carry over into a setting like a nursing home. Such activities as hunting, fishing and home repair are those which are not readily accessible in such a setting. Further investigation into the presence of and explanation of gender differences in activity choice is warranted.

The Mann-Whitney U test also indicated that there were significant differences in the ranks of scores between those individuals with high life satisfaction scores and those with low life satisfaction scores on the total personal causation and total values scores. Individuals with high LSIZ scores scored higher on those ARQ measures than did those who received life satisfaction scores at or below the mean. Kahana et al. (1980) view congruence or goodness of fit as preceding a sense of satisfaction. Individuals who feel more in control over the selection of the activities in which they engage may tend to be more...
highly satisfied with their lives. This is also consistent with the findings of Palmore et al. (1972). Such individuals may also find that the activities available to them are consistent with their values about the use of time.
CONCLUSION

This study examined the relationship of life satisfaction to congruence between the characteristics of specific activities as perceived by the individual and the characteristics of the volition subsystem of that individual. Smith et al. (1986) called for investigation into the relationship between types of occupations and volitional traits. Duellman et al. (1986) concluded that additional research needed to be done to determine the extent to which congruence between activity and the individual's interests and values would affect adaptation as measured by the Future Time Perspective Inventory and a portion of the Role Checklist. This study extends the previous research by measuring this congruence in greater detail. This study also determined that a positive correlation exists between adaptation or life satisfaction of the older adult and congruence of the activity and the components of the volition subsystem of the older adult.
Appendix A

Outline and Definitions of the Volition Subsystem
OUTLINE AND DEFINITIONS OF THE VOLITION SUBSYSTEM
(Kielhofner and Burke, 1985)

I. **Personal Causation** - "a collection of beliefs and expectations which a person holds about his or her effectiveness in the environment" (p. 15)

A. **Internal versus external orientation** - "the individual's conviction that outcomes in life are related to personal actions (internal control) versus the action of others, fate or luck (external control)" (p. 16)

B. **Belief in skill** - "a person's conviction that he or she has a range of important abilities" (p. 16)

C. **Belief in efficacy of skill** - "belief that one's abilities are useful and relevant in one's life situation" (p. 16)

D. **Expectancy of success or failure** - "one's anticipation of future endeavors and whether their outcomes will be successful or not" (p. 17)

II. **Values** - "images of what is good, right and/or important" (p. 17)

A. **Temporal orientation** - "the way in which an individual interprets and views his or her own placement in time; it includes the degree of orientation or concern with past, present or future, and beliefs about how time should be used" (p. 18)
B. **Meaningfulness of activities** - "an individual's disposition to find importance, security, worthiness, and purpose in particular occupations" (p. 19)

C. **Occupational goals** - "objectives for personal accomplishments or for future occupational activities or roles" (p. 19)

D. **Personal standards** - "commitments to performing occupations in moral, excellent, efficient, or otherwise socially sanctioned ways" (p. 19)

III. **Interests** - "dispositions to find occupations pleasurable" (p. 20)

A. **Discrimination** - "the degree to which one differentiates a liking or expectation of enjoyment in certain occupations" (p. 21)

B. **Pattern** - "a configuration of occupations one is disposed to enjoy" (p. 21)

C. **Potency** - "the degree to which interests are based on past experiences and influence present action" (p. 22)
Appendix B

Life Satisfaction Index Z
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>1. As I grow older, things seem better than I thought they would be.</td>
<td></td>
</tr>
<tr>
<td>2. I have gotten more of the breaks in life than most people I know.</td>
<td></td>
</tr>
<tr>
<td>3. This is the dreariest time of my life.</td>
<td></td>
</tr>
<tr>
<td>4. I am just as happy as when I was younger.</td>
<td></td>
</tr>
<tr>
<td>5. These are the best years of my life.</td>
<td></td>
</tr>
<tr>
<td>6. Most of the things I do are boring or monotonous.</td>
<td></td>
</tr>
<tr>
<td>7. The things I do are as interesting to me as they ever were.</td>
<td></td>
</tr>
<tr>
<td>8. As I look back on my life, I am fairly well satisfied.</td>
<td></td>
</tr>
<tr>
<td>9. I have made plans for things I'll be doing a month or year from now.</td>
<td></td>
</tr>
<tr>
<td>10. When I think back over my life, I didn't get most of the important things I wanted.</td>
<td></td>
</tr>
<tr>
<td>11. Compared to other people, I get down in the dumps too often.</td>
<td></td>
</tr>
<tr>
<td>12. I've gotten pretty much what I expected out of life.</td>
<td></td>
</tr>
<tr>
<td>13. In spite of what people say, the lot of the average person is getting worse, not better.</td>
<td></td>
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</table>
Appendix C

Activity Rating Questionnaire
ACTIVITY RATING QUESTIONNAIRE

ACTIVITY: _______________________________

Please mark one of each pair. There are a total of 11 pairs.

1. ____ I would participate in this activity because I would want to.
   ____ I would participate in this activity because others would want me to.

2. ____ I have the skills to perform this activity well.
   ____ I do not have the skills to perform this activity well.

3. ____ This activity would be useful to me.
   ____ This activity would not be useful to me.

4. ____ I know I would succeed in this activity.
   ____ I know I would fail in this activity.

5. ____ This activity would be a good use of time.
   ____ This activity would not be a good use of time.

6. ____ This would be an important activity to me.
   ____ This would not be an important activity to me.

7. ____ This activity would help me accomplish my goals.
   ____ This activity would not help me accomplish my goals.

8. ____ I could meet my own standards if I performed this activity.
   ____ I could not meet my own standards if I performed this activity.

9. ____ I think this activity would be enjoyable.
   ____ I think this activity would be boring.

10. ____ This activity is like other activities I enjoy.
     ____ This activity is different than other activities I enjoy.

11. ____ I have done this activity before.
     ____ This activity would be a new one for me.
Appendix D

Informed Consent Form for Pilot Study
INFORMED CONSENT

Dear Volunteer,

I am a graduate student in occupational therapy at Western Michigan University. I am conducting research on how older people rate the activities they have available to them and how satisfied they are with those activities. Such information will add to our knowledge of the role of activities in the lives of older people.

If you choose to participate in this study, I will ask you to fill out a questionnaire. This questionnaire asks you to rate activities that you have available to you. I will then return in 1 to 2 weeks and have you complete the questionnaire again. You do not have to remember your original choices. This is being done to see how good the questionnaire is, not how well you remember things.

Your responses to the questionnaire will be known to only you and me. Your responses will not be shared with the staff. Your participation is entirely voluntary. You may stop participating in the study at any time without penalty. You are free to ask questions at any time.

Sincerely,

David De Noble

I consent to participate in this study. I understand that I am free to withdraw at any time. I also understand that my responses will not be identified. I have read and understand the above information.

_________________________   __________________________
Signature                    Date
INFORMED CONSENT

Dear Volunteer,

I am a graduate student in occupational therapy at Western Michigan University. I am conducting research on how older people rate the activities they have available to them and how satisfied they are with those activities and life in general. Such information will add to our knowledge of the role of activities in the lives of older people.

If you choose to participate in this study, I will ask you to fill in three short questionnaires. The first is to obtain some general information about you, the second asks you to rate activities, and the third asks your opinion on some questions about life in general.

Your responses to the questionnaires will be known to only you and me. Your responses will not be shared with the staff. Your participation is entirely voluntary. You may stop participating in the study at any time without penalty. You are free to ask questions at any time.

Sincerely,

David De Noble

I consent to participate in this study. I understand that I am free to withdraw at any time. I also understand that my responses will not be identified. I have read and understand the above information.

_________________________________________  __________________________________________
Signature                                      Date
Appendix F

Protocol for Pilot Study
Protocol for Pilot Study

Subject Identification and Selection

Subjects in the pilot study will be selected from participants of a geriatric day program located in Grand Rapids, Michigan. Individuals will be identified as potential subjects for the study by agency staff according to the following criteria:

1). The individual must be at least 60 years old as determined by agency records. There is no ceiling age.

2). The individual must have been an active program participant two to five days per week for at least one month prior to the pilot study according to agency attendance records.

3). The individual must have no cognitive impairment which would prevent him/her from understanding and consenting to participate in the study. Individuals who according to agency records have a diagnosis of mental retardation or any form of dementia will not be included in this study. Individuals with any form of aphasia will be excluded. Individuals who are actively psychotic, hallucinatory or delusional will be excluded. Individuals adjudicated as being incompetent and having guardians will be excluded.

Activity Identification

The researcher will consult with day program staff to generate a list of activities to which all program participants have access within the day program. Activities only available outside the day program will not be included. The number of activities will arbitrarily set.
at a maximum of 20 to avoid possible fatigue of the subjects during administration of the ARQ. Activities categorized as work, self-maintenance and leisure will be included as far as is possible. Self-maintenance activities that are necessary to sustain life such as eating or toileting will not be included since the element of choice is restricted to the method rather than the actual performance of such activities. All activities included will be those to which all the subjects have equal access.

The name of each activity will be typed at the top of the ARQ. There will be one sheet of the ARQ for each activity.

Data Collection

Each potential subject will be approached by a day program staff member and the researcher. The staff member will introduce the researcher. The researcher will briefly explain the purpose of the study and what would be expected of the subject if the subject chooses to participate. If the subject consents to participate in the study, the consent form will be completed by the researcher and signed by the subject. Three copies will be made with the original being retained by the researcher and one copy by the subject. The other two copies will be retained by the agency with one copy in the subject's file and one copy in agency administrative files.

The researcher and the subject will be seated at a table in a conference room in the agency. The researcher will assign a code number to the subject and enter the code at the top right hand corner of the consent form, all copies of the ARQ and the space provided on
the tally sheet. The code will consist of five digits. The first two digits will signify the agency which will be designated 01 for the pilot study. The last three digits of the code will identify the subject, starting with 001. The date of data collection will be entered under the code on all copies of the ARQ and the tally sheet.

When the subject and the researcher are comfortably seated, the researcher will say (alternate instructions for those unable to read or fill in rating form are given in brackets):

I would like you to show me how you feel about some activities that are available here. At the top of each sheet of paper that I will give you is the name of an activity. Under that are eleven pairs of sentences. Please read [I will read] the name of each activity and then read [I will read to you] the sentences underneath. Pick one sentence out of each pair that best describes how you feel about the activity and put a check mark in the space provided in front of the sentences [tell me which one and I will put a check mark in the space provided in front of that sentence]. Please pick one out of each pair. When you have responded to all the sentences for the first activity we will go on to the next activity. If you have any questions at any time, feel free to ask. Let me know if you are getting tired and we will stop. Do you have any questions now?

I am going to keep track of the questions you have. This is just to help me know how clearly I have written the sentences.

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When all the sheets have been completed the researcher will say:

Thank you for your help. I will be back on ________
to meet with you again. At that time we will complete an-
other set of ratings. This is only to help me know if I
have written a good questionnaire. You do not have to try
and remember how you felt about the activities this time.

At the time of the retest, a second set of the ARQ will be adminis-
tered. The subject code and the date of administration will be entered
on the tally sheet and all copies of the ARQ. The same instructions
given during the initial administration will be given. In each ad-
ministration the requests for assistance for each item will be tallied
as to the frequency of the request. The type of assistance required
will be entered for each item.
Appendix G

Protocol for Full Study
Protocol for Full Study

Subject Identification and Selection

Subjects in the full study will be selected from residents of nursing homes located in the Grand Rapids and Kalamazoo, Michigan area. Individuals will be identified as potential subjects for the study by staff according to the following criteria:

1). The individual must be at least 60 years old as determined by nursing home records. There is no ceiling age.

2). The individual must have been a resident of the nursing home for at least one month prior to the study according to nursing home records.

3). The individual must have no cognitive impairment which would prevent him/her from understanding and consenting to participate in the study. Individuals who according to nursing home records have a diagnosis of mental retardation or any form of dementia will not be included in this study. Individuals with any form of aphasia will be excluded. Individuals who are actively psychotic, hallucinatory or delusional will be excluded. Individuals adjudicated as being incompetent and having guardians will be excluded.

Activity Identification

The researcher will consult with the staff in each nursing home to generate a list of activities to which all residents have access within the nursing home. Activities available only outside the nursing home will not be included. A list of all activities common to all
nursing homes will be developed to a maximum of 15. The actual number of activities included will be determined by the number of activities common to all nursing homes participating in the study as well as the results of the pilot study to avoid possible fatigue of the subjects during administration of the ARQ. Activities categorized as work, self-maintenance and leisure will be included as far as is possible. Self-maintenance activities that are necessary to sustain life such as eating or toileting will not be included since the element of choice is restricted to the method rather than the actual performance of such activities. All activities included will be those to which all the subjects have equal access.

The name of each activity will be typed at the top of the ARQ. There will be one sheet of the ARQ for each activity.

Data Collection

Each potential subject will be approached by a nursing home staff member and the researcher. The staff member will introduce the researcher. The researcher will briefly explain the purpose of the study and what would be expected of the subject if the subject chooses to participate. If the subject consents to participate in the study, the consent form will be completed by the researcher and signed by the subject. Two copies will be made with the original being retained by the researcher and one copy by the subject. The other copy will be retained by the nursing home.

The researcher and the subject will be seated at a table either in the subject’s room or other available private space within the
nursing home. The researcher will assign a code number to the subject and enter the code at the top right hand corner of the consent form, the DIF, the LSIZ, all copies of the ARQ and in the space provided on the tally sheet. The code will consist of five digits. The first two digits will signify the nursing home which will be assigned numbers beginning at 02 for the full study. A list of all nursing home codes will be maintained by the researcher along with the name, address and telephone number of the nursing home and the name of the contact person within each facility. The last three digits of the code will identify the subject, starting with 001 for the first subject in each nursing home. The date of data collection will be entered under the code on all copies of the ARQ and the tally sheet.

When the subject and the researcher are comfortably seated, the researcher will hand the subject the DIF and say (alternate instructions for those unable to read or fill in rating form are given in brackets):

This is a form which asks for some information about you. Please fill in the information [tell me the information and I will write it on the form]. Please do not put your name on the form.

When the DIF is completed, the researcher will hand the subject the first page of the ARQ and say:

I would like you to show me how you feel about some activities that are available here. At the top of each sheet of paper that I will give you is the name of an activity. Under that are eleven pairs of sentences. Please
read [I will read] the name of each activity and then read [I will read to you] the sentences underneath. Pick one sentence out of each pair that best describes how you feel about the activity and put a check mark in the space provided in front of the sentences [tell me which one and I will put a check mark in the space provided in front of that sentence]. Please pick one out of each pair. When you have responded to all the sentences for the first activity we will go on to the next activity. If you have any questions at any time, feel free to ask. Let me know if you are getting tired and we will stop. Do you have any questions now?

I am going to keep track of the questions you have. This is just to help me know how clearly I have written the sentences.

When the ARQ has been completed the researcher will hand the subject the LSIZ and say:

This is the last form. Here are some statements about life in general that people feel differently about. Would you read [I will read] each statement on the list, and if you agree with it, circle [tell me and I will circle] the word "AGREE." If you do not agree with a statement, circle [tell me and I will circle] the word "DISAGREE." If you are not sure one way or the other, circle [tell me and I will circle] the "?." Please be sure to answer every question on the list.

Thank you for your help. I have really enjoyed the
time we spent together. I appreciate you taking the time to do this with me.
Appendix H

Demographic Information Form
DEMOGRAPHIC INFORMATION FORM

SUBJECT CODE:_______

1. How old are you? _________________

2. Are you male or female? _________________

3. Is your income? (Please circle one)
   less than adequate adequate more than adequate

4. How far did you go in school? (Please circle one)
   0 1 2 3 4 5 6 7 8 9 10 11 12 Trade school College

5. How long have you lived here? _________________
Appendix I

Tally Sheet for Assistance Provided
## Tally Sheet for Assistance Provided

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<th>Item</th>
<th>Frequency</th>
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BIBLIOGRAPHY


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