Internal-External Control and Temporal Orientation Among Southeast Asians and White Americans

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Key Words: models, occupational therapy

This study examined ethnic group differences with the use of the Model of Human Occupation (Kielhofner, 1985b). Three groups—immigrants from Thailand, immigrants from Cambodia, and white Americans—were contrasted on two constructs—internal versus external control and temporal orientation. The study attempted to identify whether nonpatient subjects have an internal locus of control and a strong future orientation, as the Model of Human Occupation would predict. No differences were found with the use of the Internal-External Scale (Rotter, 1966). The Thai and white Americans differed significantly on the Time Reference Inventory (Roos & Albers, 1965b). The Thai selected more items referring to the past, and the white Americans chose more statements applying to the present. There were no differences for past or future time extensions between groups. All the groups had a greater past extension than future extension. It was proposed that a larger future time perspective was not a requisite for functional temporal adaptation.

The Model of Human Occupation has been described as a unique and significant framework for application in a variety of occupational therapy settings (Barris, Dickie & Baron, 1988; Kielhofner, 1985a). Recent research has attempted to clarify the model to serve as a clinical problem-solving tool and a guide for intervention.

Several studies have applied the model across diverse patient populations to better explain cultural characteristics found among such groups (Khoo & Renwick, 1989; Wieringa & McColl, 1987). These studies suggest that the model is valuable for use with distinct cultural groups and provides worthwhile information. Such recommendations are important due to the current emphasis on increasing therapists' awareness of cultural and ethnic diversity of patients (Sayles-Folks & People, 1990). Moreover, the Model of Human Occupation has become a standard theoretical framework endorsed by many occupational therapy curricula. Although studies have examined the validity of the model's constructs, the legitimacy of cross-cultural application needs more investigation.

Literature Review

The existing occupational therapy literature tends to describe culture as a factor influencing the effectiveness of treatment. Sanchez (1964) and Skawski (1987) addressed the issue in terms of attitudes held by therapists. Some have concentrated on differing treatment considerations due to race and ethnicity (McCormack, 1987), and others have examined human performance cross-culturally (Ianone, 1987).

As explained by Krefting and Krefting (1991), such inquiries are pertinent to the field, yet they are often flawed by the misuse of the concepts of culture and ethnicity. No one definition of culture exists, but it can be described in general terms as "a filter or veil through which people perceive life's experiences" or as the learned body of information passed on to the young by group members (Krefting & Krefting, 1991, p. 108). Ethnicity is the specific affiliation to a group, be it racial, national, or religious. Culture is unique to each person, and homogeneity should not be assumed because of ethnic affiliation (Krefting & Krefting, 1991).

In the literature pertaining to the Model of Human Occupation, Barris, Kielhofner, Levine, and Neville (1985) included culture as one of the four environmental layers (with social groups and organizations, tasks, and objects) that influences the human system. The properties of culture are said to encompass the nature of work and play, space and time organization, and the transmission of values and knowledge. The authors asserted that human performance could be subject to cultural variation. Wieringa and McColl (1987) effectively used the model to analyze the performance of native Canadians. They af-
firmed that although the model was based on Western conceptions, it "acknowledges cultural influences at various levels in the development and enactment of competent occupational behavior" (Wieringa & McColl, p. 74).

Within Kielhofner's (1985b) A Model of Human Occupation: Theory and Application, however, some definitions of dysfunction were influenced by North American cultural biases (Evans, 1990; Kinebanian & Stumph, 1990). Of particular interest are the constructs of internal versus external control (a dimension of personal causation) and temporal orientation found in the volitional subsystem (one of the three subsystems [i.e., volitional, habituation, and performance]). Barris, Kielhofner, Neville, et al. (1985) stated that "researchers have consistently found that the greater belief in external control, the greater the degree of psychological disturbance" (p. 249). These persons, for example, tend to be less adjusted, less socially skilled, and prone to mood swings.

In terms of temporal orientation, the model's authors acknowledged possible cultural differences and suggested that one's perceptions of past, present, and future may change with development (Kielhofner, 1980; Kielhofner & Burke, 1985). In the literature, however, temporal dysfunction was generally described as a lack of future orientation and as an inability to set goals (Barris, Kielhofner, Neville, et al., 1985; Kielhofner & Burke, 1985; Neville, 1980; Neville, Kielhofner, & Kreisberg, 1985).

There also exists a substantial amount of literature documenting the existence of cultural variation with respect to locus of control and temporal orientation. Wieringa and McColl (1987) revealed that native Canadians may exhibit an external sense of control in some situations due to the society's notion of collective responsibility and because of their spiritual and supernatural beliefs. Studies indicated that Asians have a greater external locus of control than Westerners (Hsieh, Shybut, & Lotsof, 1969; Parsons & Schneider, 1974). Rotter (1975), the author of the original Internal-External Scale, also warned researchers not to presume only negative characteristics of external loci and positive traits of internal loci.

Many studies regarding temporal perception acknowledged obvious cultural differences. Some have confirmed that different ethnic groups value the past, present, and future differently (Jones, 1988; Kluckhohn & Strodtbeck, 1961). Wieringa and McColl (1987) also reported that native Canadians held a dissimilar view of time. They as well as other occupational therapists working with culturally distinct populations suggested sensitivity and flexibility concerning temporal issues (McMack, 1987).

Study Purpose

In this study I attempted to increase the knowledge base concerning the relationship between ethnicity and two constructs of the Model of Human Occupation. Two assessments, which were recommended by Kielhofner (1985b) and used by Oakley, Kielhofner, and Barris (1985), were used to examine whether differences in the volitional subsystem could be measured and associated with ethnic group membership. The face validity of the following two assumptions was examined:

1. Nondysfunctional persons usually have an internal locus of control.
2. Nondysfunctional persons have a strong future orientation.

These assumptions found within the Model of Human Occupation were examined in nonpatient Southeast Asians living in Seattle and Tacoma, Washington, as compared with a similar sample of white Americans.

Method

Subjects

The 88 subjects who participated in the study were contacted through local religious centers. The samples consisted of three groups: Thai, Cambodians, and white Americans. All of the participants had to be between the ages of 14 and 55 years, be able to read and write, and be willing to participate. The study involved nonpatient subjects only. This criterion excluded those persons currently receiving treatment for a medical condition.

Cambodian refugees and Thai were selected for the study because they make up a large portion of the growing Southeast Asian community in the Seattle-Tacoma area. The two Asian groups contained persons who had been born either in Thailand (including the Thai-Lao border areas) or in Cambodia. The Southeast Asians had to have spent at least 1 year in the United States to minimize the inclusion of new immigrants still struggling with their initial transition to the United States. Persons in the white American group were U.S. citizens who had self-selected themselves as white, Anglo, or Caucasian.

Instrument

Internal-External Scale (Rotter, 1966). This 29-question forced-choice paper-and-pencil test measures belief in the internal versus external control of events. It corresponds with the internal-external control dimension of personal causation found within the Model of Human Occupation. The scale results in a single score ranging from 0 to 23, and norms have been reported in the literature for both males and females (Rotter, 1966, 1975). A high score indicates belief in external control. Rotter reported high internal consistency (.65 to .73), test-retest reliability (.55 to .83), and validity findings. The Internal-External Scale was recommended by Kielhofner (1985b) and used by Oakley et al. (1985) as part of an assessment battery for psychiatric patients that was based on the Model of Human Occupation.
Time Reference Inventory (TRI) – Shortened Form (Roos & Albers, 1965b). This assessment provides a measure comparable to the construct of temporal orientation that indicates a subject's perceived importance of the past, present, and future through a paper-and-pencil test. The shortened form consists of 12 items that were modified for persons with mental retardation. The first 5 items are of a negative tone, the next 5 items are positive, and the last 2 items have neutral meaning. For each statement, the respondent circles whether it most appropriately refers to the past, present, or future. The instrument also yields past and future extensions to determine the mean number of years subjects considered forward and backward in time. Reliability and validity have not been reported (Roos & Albers, 1965a, 1965b). Again, this scale was espoused by Kielhofner (1985b) and was used as part of Oakley et al.’s (1985) battery.

Procedure

The two assessments and relevant demographic questions were administered in the form of a written questionnaire that participants completed in my presence. Thai and white American subjects took an English version of the questionnaire. Thai subjects were surveyed over the course of 6 weeks at a Thai Buddhist temple. Data collection with the white Americans occurred on a single Sunday at a Methodist church.

The questionnaire for the Cambodians was first translated into Khmer and then verbally translated back into English to ensure its accuracy. Cambodian subjects were therefore given the choice between a Khmer and an English version. During the 6 weeks of data collection, 11 subjects chose the Khmer translation and 20 preferred the English. No significant differences were found between the two versions, thus all of the Cambodian subjects were considered as one group in the data analysis. Both versions were administered at a Cambodian Buddhist temple and cultural center.

It should be noted that the questionnaire was not translated into Thai, thereby ensuring the integrity of the instruments, but possibly leading to difficulties in comprehension. With the Cambodian subjects, the choice between Khmer and English was available in an attempt to eliminate potential language barriers among one of the two Asian groups.

Results

The 29 Thai, 31 Cambodians, and 28 white Americans were initially compared on the demographic data. A one-way analysis of variance followed by a post hoc Scheffé multiple comparison revealed that age and years of school differed significantly (p < .0001) among all three samples. Further analysis with the use of chi-square procedures showed other statistical differences between the groups for employment categories, marriage, and number of children (see Table 1 for a summary of the subjects' characteristics).

Because significant differences existed between the samples, the scores derived from the Internal-External Scale and the TRI were compared with the use of an analysis of covariance (ANCOVA), with age and years of school as covariates (see Table 2). When examining locus of control results, the white Americans were slightly more internally oriented as a group (m = 9.21 SD = 4.16), but this was not significant. The group means for the Thai and Cambodians were 10.10 (SD = 2.72) and 10.13 (SD = 2.54), respectively.

The results obtained from the TRI were also analyzed with age and years as covariates. First, the total number of items selected as referring to the past, present, and future were contrasted by group. Only the past and present totals were found to be significantly different across groups (p < .02). A Scheffé multiple comparison showed that the Thai had selected a greater mean number of past statements than the white Americans. Conversely, the white Americans as a group selected more present statements than the Thai.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Subjects' Characteristics</th>
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<tr>
<td>Group</td>
<td>Characteristic</td>
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<tr>
<td>Thai</td>
<td>(n = 29)</td>
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<tr>
<td>Age</td>
<td>m</td>
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<td>m</td>
<td>31.35</td>
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<tr>
<td>Years of education</td>
<td>m</td>
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<tr>
<td>m</td>
<td>4.15</td>
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<tr>
<td>Years in U.S.</td>
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<tr>
<td>Sex</td>
<td>Male</td>
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<td>10 (35%)</td>
<td>19 (63%)</td>
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<tr>
<td>16 (55%)</td>
<td>29 (95%)</td>
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<tr>
<td>16 (55%)</td>
<td>29 (95%)</td>
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<td>Chi²</td>
<td>4.70</td>
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<td>F</td>
<td>6.83</td>
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<td>p</td>
<td>.01</td>
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Note: Khmer = Cambodians; White = white Americans; ns = not significant. Due to empty cells during cross-tabulation, the categories were collapsed into two values. Students were included in the working category. "All other" employment involved sales/clerical personnel, craftspeople, students, operatives, unskilled workers, skilled workers, and domestic workers. All test was performed for years in the United States.
On the TRI, Roos and Albers (1965a, 1965b) analyzed their results in terms of how samples differed in selecting the various negative, positive, and neutral statements as past, present, or future. In the present study, there were no differences between ethnic groups in the way that they selected the negative or unpleasant items. Regarding the five positive statements, the Thai marked significantly more (p < .05) of these items as being in the past than did the white Americans. However, the Scheffé multiple comparison revealed that they selected significantly fewer positive items than did the white Americans (p < .03) in reference to the present. The two neutral statements were not significantly different by ethnic group when age and years of school were controlled.

Finally, the ANCOVA determined no significant differences between groups regarding past and future time extensions. White Americans had the greatest past extension (m = 17.50 years). The Thai had a mean of 14.50 years and the Cambodians looked the least into their past (m = 9.10 years). Moreover, white Americans were found to have the largest future extension (m = 14.41 years). Neither the Cambodians (m = 7.64 years) nor the Thai (m = 6.24 years) projected as far into the future.

Discussion

Ethnic group differences do exist for temporal orientation but apparently not for locus of control. The results mainly revealed dissimilar views held by the white Americans and the Thai, whereas, as a group, the Cambodians often scored between them.

The Cambodian subjects were never statistically different from the Thai or the white Americans. The Cambodians, however, were most unlike the other two samples in terms of demographic characteristics. They tended to be younger, be unmarried, have fewer years of education, and be newer to the United States. Still, their results were often nearer to those of the white Americans than were the Thai to the white Americans. One could postulate that these young refugees have assimilated more quickly into the surrounding culture.

Another important implication of the Cambodian sample’s responses was that they accentuated the discovered differences between the Thai and the white Americans, the two groups more similar in demographic make-up. This supports the likelihood that the significance found with the ANCOVA revealed real differences in belief and not just the effect of the other sample characteristics (i.e., children, working or not, and type of employment), which could not be controlled.

The results from the Internal-External Scale do not uphold previous studies that identified differences between Asian and Western peoples (Hsieh, Shybut, & Lotsof, 1969; Parsons & Schneider, 1974). The Thai and Cambodians were more externally oriented, but their scores were only slightly higher than those of the White Americans. All three samples scored higher, thus, more externally than the normative scores initially obtained by Rotter (1966) (Ohio State students: m = 8.3, SD = 4.0) and nearer to a sample of psychiatric inpatients (m = 11, SD = 3.2) reported by Oakley et al. (1985). The mean score for college students, however, was later revised to an Internal-External Scale score between of 10 and 12 (Rotter, 1975). This suggests that the three ethnic groups and even the sample of psychiatric patients could be considered as having internal loci of control.

This finding tentatively strengthens the assumption within the Model of Human Occupation that nondysfunctional persons have an internal locus of control. But the findings also show that people may be more externally oriented than previously thought, therefore supporting the use and establishment of more accurate normative means. Further research must be conducted before any implications concerning citizens in other countries are made. Perhaps immigration is a selection factor that fa-

Table 2

<table>
<thead>
<tr>
<th>Instrument Result</th>
<th>Group</th>
<th>n</th>
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<tr>
<td></td>
<td>Thai (n = 29)</td>
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<td>Khmer (n = 31)</td>
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<td>White (n = 28)</td>
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<td>m</td>
<td>10.10</td>
<td>10.13</td>
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<td></td>
<td></td>
<td>SD</td>
<td>2.72</td>
<td>2.54</td>
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<td>Present</td>
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<td></td>
<td></td>
<td>m</td>
<td>5.72</td>
<td>4.58</td>
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<td></td>
<td></td>
<td>SD</td>
<td>3.01</td>
<td>1.80</td>
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<td>Future</td>
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<td>m</td>
<td>3.17</td>
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<td>SD</td>
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<td>Present</td>
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<td>m</td>
<td>1.97</td>
<td>2.41</td>
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<td></td>
<td></td>
<td>SD</td>
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<td>1.39</td>
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<td>Future</td>
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<td>m</td>
<td>1.48</td>
<td>1.68</td>
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<td></td>
<td></td>
<td>SD</td>
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<td>0.98</td>
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<td></td>
<td>Neutral Items</td>
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<td></td>
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<td>m</td>
<td>6.24</td>
<td>7.64</td>
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<td></td>
<td></td>
<td>SD</td>
<td>8.68</td>
<td>6.98</td>
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vors those who more strongly believe that their actions can affect their fate.

Another possible course, demonstrated by Parsons and Schneider (1974), examined five subscales found within the Internal-External Scale. They discovered that ethnic samples did not differ on the total Internal-External Scale scores, but varied between subscales. Currently, some speculative trends appear to exist between groups. For example, the Cambodian subjects often indicated that academic grades were influenced by uncontrollable events. The white Americans frequently selected those statements that implied that the average citizen can have an influence within government. But any further interpretation would go beyond the scope of the present study.

Generally, the construct of internal versus external orientation (as measured by the Internal-External Scale total score) was not significantly influenced by ethnicity. Because the nonpatient Southeast Asians were found to have an internal locus of control, this implies that external scores may indicate dysfunction. Still, clinicians should be prudent when applying the construct to persons from distinct sociocultural backgrounds. Until further research is done to substantiate similarities among ethnic groups, it would be better to expect possible differences.

The study does lend evidence to the hypothesis that some Southeast Asians are more past oriented than white Americans. It is unclear why the white Americans selected significantly more items referring to the present than did the Thai. This could suggest that, as a group, they are content with their current situations. The young Cambodians had the greatest mean number of overall future selections, possibly because they are looking forward to the coming years. This might also imply that they do not want to reflect on their past refugee experiences.

Even though the mean past extension was greater for the white Americans, age was a significant influence. Thus, no statistical difference was found in terms of past extensions when contrasted by group when age and education were controlled as covariates. Although not significant, the white Americans' future extension was two times greater than the Southeast Asians'. But when compared with the findings in the literature, all the ethnic groups had a greater past extension than the normative mean (m = 8.4 for 18-year-olds) reported by Roos and Albers (1969b). All but the Cambodians had a larger past time extension than did Oakley et al.'s (1985) sample of hospitalized psychiatric patients (m = 9.6, SD = 7.0). Moreover, the Thai's and the Cambodians' future extensions were less than the normative means documented by Roos and Albers (m = 18.1 for 18-year-olds; m = 9.1 for middle-aged adults) and only 2 to 3 years more than the sample of psychiatric patients (m = 4.6, SD = 9.4).

These results seriously call into question the validity of the model's assumption that nondysfunctional persons have a strong future orientation. Certainly, the Thai do not fit that criterion. Therapists working with Southeast Asians should be aware that these patients may place more importance on the events of the past than those of the present or future. Additionally, all three samples in the study had a greater past extension than future extension. This refutes Neville's (1980) claim that future time extension is the critical dimension that determines a person's temporal adaptation. It should not be used in the way suggested as "an indicator of a person's ability to adapt to his or her environment" (p. 330). Rather, the results indicate that the definition of temporal orientation needs revision. Primarily, a future time perspective can not be deemed a requisite for temporal adaptation. Instead, the focus of assessment should examine a person's use of time and ability to perform functional routines regarding what activities are meaningful and important in that culture.

Further theoretical implications of this study are bound by its own limitations. The findings are dependent on the reliability and validity of the test instruments. As suggested by Mann and Klyczek (1988), it is too early to assign numbers to theoretical constructs. Although the Internal-External Scale has demonstrated reliability and validity, the instrument has been criticized for its difficult language, forced-choice format, and view of locus of control as a unidimensional rather than a multidimensional construct (Duke & Nowicki, 1974; Reid & Ware, 1973). Only limited work, however, has been done with the TRI to confirm it as a valid measure of temporal orientation. The resultant data from the two methods of analysis—time extensions and number of selected items referring to the past, present, and future—often appeared contradictory. The white American sample, for example, had the largest future time extension but selected the fewest number of all 12 items as referring to the future. It still needs to be determined which analysis better measures internal perception of time.

Barris, Kielhofner, and Watts (1983) expounded that human temporality consists of the internal image of time and the organization of time use. Until clinical assessments are sensitive enough to accurately measure temporal perception, clinicians might better concentrate on a person's use of time, often represented in a balance of work, rest, and play. Such analysis has been the hallmark of the profession and lends itself more to objective measurement.

The research was limited in its ability to control for other demographic differences and ensure a representative sample. Because the data were gathered from voluntary participants at religious institutions, it is plausible that such subjects might have a greater external locus of control that the general populous because of beliefs regarding some higher or external power.

More researchers could investigate how different internal perceptions of time affect occupational behavior to better understand and define temporal orientation and
dysfunction. It would be interesting to examine how temporal beliefs change with age or disability. Additionally, efforts should continue toward improvement of test validity and reliability. Future studies could administer the same and additional instruments to distinct ethnic groups with the purpose of establishing concurrent validity.

It is well-known that work needs to be done to refine the quantitative measures used in occupational therapy. The recent dialogue of Barris and Dickie (1988) with Mann and Klyczek (1988) illustrated that disagreement exists over the use of qualitative versus quantitative methods in researching the Model of Human Occupation. Both methods have merit, and further qualitative examination of culture, temporal orientation, and locus of control would enrich the professional literature. In the present study I attempted to discover what the two assessments yield when applied to nonpatient subjects and to continue efforts toward theory development.

In conclusion, in the present study I examined ethnic group differences concerning internal versus external control and temporal orientation. No differences could be established for locus of control. Differences in temporal beliefs were found between the Thai and white Americans. The Thai selected more items referring to the past, whereas the white Americans chose more statements in reference to the present. All the groups had a larger past time extension than future time extension, which necessitates revision of the model's construct of temporal orientation. I recommend that functional temporal adaptation not be seen as contingent on a greater future time extension.

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