OBJECTIVE. Although the practice of occupational therapy is described in textbooks, research, and professional standards, a tool for outcomes research is needed.

METHOD. The Occupational Therapy Practice Checklist (OTPC), based on the Model of Occupational Performance (Pedretti, 1996), includes domains of adjunctive, enabling, purposeful, and occupational performance. Practices are also identified by phase of therapy (early, middle, late). The OTPC was piloted with 40 adults in an outpatient physical rehabilitation center.

RESULTS. The Kuder Richardson 20 coefficient of internal consistency was .91. Practices on the OTPC discriminated between clients with and without neurological disorders.

CONCLUSION. The OTPC has potential for yielding knowledge about occupational therapy practice. Results of the pilot show that occupational therapy practice was not linear, as theorized, but rather a complex integration of techniques.


Background

Rationale

Most of the literature describing occupational therapy practice in adult physical rehabilitation is published in textbooks (e.g., Pedretti, 1996; Pedretti & Early, 2001; Trombly, 1995; Trombly & Radomski, 2002), position papers of the American Occupational Therapy Association (AOTA) (e.g., Moyers, 1999; AOTA, 2002), or in numerous research articles (see Ma & Trombly, 2001 for an example of a review of practices for stroke). Typical practice, however, evolves from the daily interactions between clinicians and clients (Law & Baum, 2001) and may or may not match the practices described in the literature or found in research studies.

Numerous authors recommend that measures of occupational therapy practice be paired with measures of occupational therapy outcomes to identify which practices are effective for which type of clients under what circumstances (Corcoran, 2004; Holm, 2000; Kielhofner, Hammel, Finlayson, Helfrich, & Taylor, 2004; Watts & Clement, 2000). A practice checklist could enhance the study of outcomes, be useful to answer questions about the effects of typical occupational therapy practice (Huebner, Johnson, Miller, & Schneck, 2003), or be used to assess the fidelity of treatment in randomized controlled studies on efficacy of specific practices (Nelson & Mathiowetz, 2004). Outcomes research on both typical practice and efficacy studies is critically important to occupational therapy education and research.

Currently there are several methods to describe occupational therapy practice. Research protocols specify procedures for occupational therapy and then study the effects of these procedures on outcomes. Such research studies often examine efficacy using somewhat contrived practices, rather than examining the effectiveness of typical practices. Chart records can be coded for the type of intervention used...
during the therapy process, but this is tedious, time-consuming, and fraught with potential biases of coders or compromised by data entry errors. Billing codes could be used to describe occupational therapy services, but such codes are subject to biases in obtaining payment and not designed for professional knowledge building. None of these currently available methods are adequate to describe and test the effects of occupational therapy.

This study was designed to develop and then test a tool to describe typical occupational therapy practice in adult physical rehabilitation settings. The works of DeVellis (2003) and Netemeyer, Bearden, and Sharma (2003) guided item content and format, scaling, and psychometric analysis of the measure. Suggested standards for disability outcomes measures (Andresen, 2000) and rapid assessment instruments (Corcoran & Fisher, 2000) were applied to assess the clinical utility of the checklist.

According to Andresen (2000), outcomes measures should be responsive to change; easy to administer, score, and interpret; useful to practitioners or clients; and brief (completed in < 15 min.). These characteristics facilitate the regular use of an outcome measure in clinical practice by reducing administrative and rater burden. Corcoran and Fischer (2000) described rapid assessment instruments as those that are written in clear simple language, require minimal competence in testing procedures, may be scored easily by practitioners, and are sensitive to change. We were particularly interested in developing a checklist specific to occupational therapy that met these criteria for instrument development, was reliable and valid, and could be introduced in a clinical setting without changing practice or burdening practitioners.

Theoretical Underpinnings and Content Domain

Occupational therapy process for this checklist was defined as the specific practices used by practitioners and the sequence of these practices throughout the duration of therapy sessions for a specific client. The Occupational Therapy Practice Checklist (OTPC) (Custer, 2001) was developed to inventory the specific practices and the timing of these practices in occupational therapy. One previous study described typical occupational therapy practice in adult physical rehabilitation. Taylor and Manguno (1991) asked occupational therapists to complete a survey about practice; they found that therapists used self-care, work simplification, joint protection, and homemaking practices most often in a physical disability setting. These therapists completed the survey retrospectively about their overall practice, rather than prospectively for specific clients.

Given this background, the authors as a research team of faculty members and practitioners began a collaborative effort to generate an item pool to measure the content domain of occupational therapy practice. The measurement of occupational therapy practice is a complex and ambitious undertaking. Because of this complexity, the study was guided by the previously cited literature, and the rationale for each step of the study is included in the following methodology section to enhance reader understanding.

Methodology

OTPC Development and Domains

Item development and rationale. Items were generated, initially by the research team, using brainstorming to generate lists of occupational therapy practices and sorting these ideas into categories or domains. Secondly, billing codes were examined and practices under each code were itemized. These techniques were useful in developing an exhaustive list of occupational therapy practices, yet they were cumbersome, unsystematic, atheoretical, and dependent on changing payment systems. If the tool were grounded in an occupational therapy model, we reasoned, then it would be applicable in multiple settings over time. The Model of Occupational Performance developed by Pedretti (1996) was chosen as the guide to generating and categorizing the item pool. This Model most consistently matched the practice domains and process of occupational therapy used by the research team; it specified occupational therapy practices, a general sequence of practice, and a process of rehabilitation. According to the Model, the practice of occupational therapy begins with the use of adjunctive methods and progresses toward occupational performance in a linear, step-like hierarchy. Each of the items included in the OTPC corresponds to one of the four practice domains identified in the Model of Occupational Performance.

Nine items on the OTPC were designed to quantify the use of adjunctive methods. Adjunctive methods are used to prepare for and develop capabilities necessary for functional occupations (Pedretti, 1996) and include, for example, exercise, splinting, or positioning. Psychosocial/ psychological methods were categorized as an adjunctive method because engagement in occupation demands emotional characteristics such as persistence and hope that complement the physical aspects of performance (AOTA, 2002). Occupational therapists are likely to view psychosocial components as influencing performance and use psychosocial methods to maintain rapport and engagement throughout the therapy process. Although evaluation might be categorized as independent of treatment, according to Pedretti (1996), evaluation is the foundation of the clinical decision making and engages the client, therapist, and often
the family in collaboration to establish or change the occupational therapy program. During evaluation, clients and families examine current capabilities and set expectations for future performance. As such, evaluation was classified as a change process that met the definition of an adjunctive method in preparing for and building the capacity for occupational performance.

Eight items on the OTPC were defined as “enabling activities” that are preparatory to independence in performance areas or that simulate functional or purposeful occupations (Pedretti, 1996). Practice boards for latches or buttons, visual perceptual tasks, or pegboards are examples.

Seven items on the OTPC were defined as “purposeful” activities. Purposeful activities include occupations of everyday life such as practicing dressing, communication, or doing leisure activities in a clinical setting. These activities are functional in that they result in a product or outcome that may have inherent meaning to the client.

Three items on the OTPC indicated the use of “occupational performance methods and occupational roles.” Pedretti (1996) defined occupational performance practice as clients performing daily tasks in the natural setting (e.g., home, community, work site) rather than in a clinical setting. Pedretti theorized that the client would be able to perform in occupational roles as a result of the interventions used earlier in therapy. Thus, adjunctive and enabling methods are purported to prepare the individual for purposeful or functional occupations and ultimately occupational performance in natural roles and settings.

Format and scaling. After the development of an item pool, it is necessary to develop scaling and formatting of the measure (DeVillis, 2003). The final OTPC included 27 items with space for adding “other” interventions. The practice items were simply listed without specifying the domain from the Model of Occupational Performance to minimize any rating bias that might occur for therapists familiar with the Model.

We sought to describe and quantify the dynamic process of occupational therapy over time. Pedretti (1996) proposed a step-like progression of techniques through the therapy process. This temporal hypothesis was used to develop a scale to indicate a phase of occupational therapy: E = Early, M = Middle, and L = Late. An additional category, T = Throughout, was added for rater convenience and these scores were counted once in each temporal category in the final analysis. Based on the progressive and linear model proposed in the Model of Occupational Performance, we hypothesized that more adjunctive practices would be used early in treatment, more enabling and purposeful practices would be used in the middle phase, and more occupational performance practices would be used later in treatment.

Because the duration of therapy and the frequency of sessions (daily to monthly) vary in practice, the concepts of early, middle, and late were not specifically defined. Instead, the occupational therapy practitioner using the OTPC interprets the temporal sequence relative to each client. Users of the OTPC are instructed to check the practices used and then indicate the phase or phases of therapy in which each practice was used. The OTPC is included in the Appendix.

Scoring of the OTPC. Scores from the OTPC were recorded dichotomously (0 = not used, 1 = the practice was used) for each practice (e.g., splint/braces or leisure crafts) in each phase of therapy (e.g., early, middle, late). This results in scores on 27 items, multiplied by the 3 phases of therapy, or 87 dichotomous Raw Scores. Total Scores were calculated for each domain (4 domains) and for each phase of therapy (3 phases) by summing the Raw Scores, resulting in 12 Total Scores. To facilitate comparisons between domains and phases on a common scale, Total Scores were divided by the number of possible interventions in each domain or phase of therapy to generate Percent Used Scores for each domain and phase of occupational therapy. For example, the first nine items of the OTPC were categorized as adjunctive methods; if three practices (e.g., evaluation, splinting, exercise) were marked as used in the early stage of treatment, the Total Score = 3. The Adjunctive-Early (domain-phase) Percent Used Score was calculated as Total Score/Possible practices or 3/9 = 33%. Using this method, 12 Percent Used Scores were calculated (e.g., Adjunctive-Early, Adjunctive-Middle, Adjunctive-Late, Enabling-Early . . . to Occupational Performance-Late). Percent Used Scores are interpreted as the percent of the possible practices from each domain that were used in that phase of occupational therapy.

Translation and Content Validity

After scaling, Netemeyer et al. (2003) recommended assessing translation validity, the accuracy with which the theory or construct, in this case Model, is represented or transformed into the measure. University faculty members, as individuals or in a small group, compared the Model and the OTPC for congruence and identified opportunities to improve the scale. Translation validity also includes face validity, the ready recognition of the concept being measured, and content validity, the degree that a measure is judged to include all the items that are representative of the construct (DeVellis, 2003). Occupational therapy practitioners in four small group discussions were asked to identify any omissions of items used in occupational therapy practice. They compared the OTPC to the earlier brainstorming of items, billing codes, and the Pedretti (1996) and Trombly (1995) texts. The groups were asked to identify...
occupational therapy practices and identify whether the practice “fit” into the OTPC; for example, “Where would laundry activities in the clinic fit?” These practitioners and faculty also commented on the wording and clinical usefulness of the measures. Revisions to the items, wording, and format were made based on this feedback.

Next we conducted a content validity study with 12 occupational therapists from eight different rehabilitation facilities in two states. The occupational therapists were trained in administering the OTPC and then applied it in practice for 3 weeks to at least three cases. After the pilot, the therapists completed a brief survey via an in-person interview (6 therapists), phone (2 therapists), or mail (4 therapists). The occupational therapists averaged 4.5 years of experience (range = 1.5 to 12 years) in inpatient, outpatient, industrial rehabilitation, and home health settings. They were asked four questions:

1. How do you (or your facility) evaluate the occupational therapy process to measure its effectiveness?
2. Does the Occupational Therapy Practice Checklist address the full range of processes that you engage in with clients at your facility?
3. What are the strengths and weaknesses of the Occupational Therapy Practice Checklist?
4. What are your suggestions for improvement of this instrument?

All of the occupational therapists supported the development of a tool that was occupational therapy specific, practical, and minimized paperwork. None of the therapists were currently using any systematic way to describe practice; they tended to list the clients’ problems, conduct treatment, and complete billing records. One occupational therapist found the OTPC to be a cumbersome extension of paperwork that she would never use. Eleven of the 12 therapists characterized the OTPC as including the full domain of items used in typical practice, and being clearly worded, concise, easy to read and score, organized, and comprehensive. Two questioned whether clinical problem solving, as an internal dialogue and way of thinking, could be measured with a simple checklist. Eleven raters saw the potential of the OTPC to test the effectiveness of treatment practices or for use in quality improvement efforts. They offered ideas for wording revisions and organization that were incorporated into the OTPC.

Pilot Study

After this content validity test, the OTPC was used in a prospective outcomes study with a pretest, follow-up design (Huebner, Freudenberger, Custer, & Nichols, 2002). The intent of this study, relative to the OTPC, was to document content validity, test the reliability of the measures, and establish early criterion validity as recommended by Netemeyer et al. (2003). Criterion validity includes predictive, concurrent, convergent, and discriminant validity, and provides evidence of the overarching rubric of construct validity. In this study we asked these questions related to the OTPC:

1. Is the OTPC reliable?
2. Is the pattern of occupational therapy practice consistent with the Model of Occupational Performance (Pedretti, 1996)?
3. Does the OTPC differentiate (discriminative validity) between the process of occupational therapy for clients with and without neurological disorders?
4. Is the OTPC useful in defining the typical practice of occupational therapy and consistent with the practitioner’s perceptions?

Procedures for the study were approved through research boards at both the rehabilitation hospital and the university.

Participants. Five female occupational therapists in a single outpatient unit at a large South Central rehabilitation hospital participated in the study. All the participating therapists had at least 3 years of work experience at the facility. They used the OTPC in treatment with 40 adults, 18 years of age or older ($M = 59.8$ years of age; range 19 to 90 years of age), who attended outpatient occupational therapy for at least five visits. Of these 40 clients, 33 (57.5%) were male, 34 (85.0%) were Caucasian, and 36 (90.0%) completed at least a high school education. Fifty-three percent lived at home with their spouse. Forty-four percent were retired and 26% were employed full time, with the others being students, homemakers, volunteers, or unemployed.

Outpatient occupational therapy treatment sessions were typically 1 hr in length. The average length of outpatient stay for occupational therapy was 3.1 months with a range from 1 to 9 months. Participants received an average of 6.77 sessions per month (range = 2–17 sessions). Seventy-eight percent also received physical therapy, speech–language therapy, or both.

Procedures. The occupational therapy practitioners were trained in using the OTPC by the first author and visited weekly by the second author to answer questions about scoring and to pick up completed research packets. They were instructed to provide occupational therapy as usual for their clients. The primary occupational therapist kept the OTPC on the front of the occupational therapy chart during the course of therapy, completed parts while therapy was ongoing, and made sure that it was fully completed and submitted to the research team when the client was discharged.
**Data analysis.** A test of internal consistency as a measure of reliability was conducted. Average Raw Scores and Percent Used Scores were calculated for items, domains, and phases. Indicators were added to the data set to identify clients with and without neurological disorders. Descriptive statistics were generated. To assess discriminate validity, OTPC scores for clients with and without neurological disorders were compared using using the Cochran chi-square analysis and t-tests as appropriate for categorical or continuous data.

**Results**

**Reliability.** The reliability and dimensionality of the OTPC were assessed in several ways. Because checklist items were recorded as dichotomous variables (checked or not checked), the Kuder Richardson 20 formula (KR-20) is the appropriate test for internal consistency (DeVellis, 2003). To meet the assumptions of this test, observations must be independent; in this reliability analysis only item scores (rather than item and summary scores) are used. Additionally, it is important that therapists’ ratings also be independent so that the rating of one client does not influence the rating on a second client. Independence was encouraged by picking up completed packets (by the second author) weekly or bimonthly, the 1-year time period required to complete the study, and checks on rating fidelity by the second author. Any clinical measure scored multiple times by the same therapist may have a degree of bias, but the extent of that bias was not measurable in this study.

KR-20 tests were run several ways to explore the dimensions of the measure; item analysis was performed. All reliability coefficients were checked for statistical significance using the Cochran chi-square $Q$ statistic that replaces the $F$ statistic for dichotomous data. First, all items were entered into the analysis with a reliability coefficient at $.91 (Q = 960.36, p < .01)$ with three potential items (fine motor practices in the early phase, and fine motor and vocational education in the middle phase) for elimination to improve reliability. The reliability of each domain was assessed with reliability coefficients as follows: Adjunctive Methods = .77 ($Q = 335.78, p < .01$); Enabling Methods = .81 ($Q = 303.08, p < .01$); Purposeful Activities = .84 ($Q = 199.07, p < .01$); and Occupational Performance = .88 ($Q = 49.14, p < .01$).

Eliminating two items—evaluation used in the middle and late phase of therapy—for elimination to improve reliability. Because the OTPC evaluates phases of therapy, the third analysis examined the reliability of the items for the early, middle, and late phases of occupational therapy. These reliabilities were Early items = .75 ($Q = 339.41, p < .01$); Middle = .76 ($Q = 312.41, p < .01$); and Late = .71 ($Q = 308.37, p < .01$). All $Q$ statistics were statistically significant, further supporting the reliability of the measures.

**Practice model consistency.** To examine whether scores on the OTPC were consistent with the Model of Occupational Performance, the distribution of practices across time was examined. Table 1 displays the percent of clients that received each intervention during each phase of occupational therapy. Table 1 also displays the percent of clients who received the occupational therapy intervention at least once during treatment (see “Total %” column). For example, 100% of clients in this study received evaluation overall and during the early phase of occupational therapy; 40% of all clients received splinting, with the majority (30%) receiving this in the middle stage of therapy. If the scores on the OTPC were consistent with the premises of the Model of Occupational Performance, then a linear and hierarchical pattern would be evident in Table 1.

Average Percent Used Scores were calculated for each subscale of the OTPC to explore the patterns of interventions by domain and phase of therapy, searching for a hierarchical pattern in the data. The average Percent Used Score

<table>
<thead>
<tr>
<th>Occupation/Intervention</th>
<th>Early Stage</th>
<th>Middle Stage</th>
<th>Late Stage</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total %</strong></td>
<td>100.0</td>
<td>50.0</td>
<td>75.0</td>
<td>100.0</td>
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<tr>
<td><strong>Adjunctive Methods</strong></td>
<td>100.0</td>
<td>50.0</td>
<td>75.0</td>
<td>100.0</td>
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<tr>
<td>Evaluations</td>
<td>100.0</td>
<td>50.0</td>
<td>75.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Exercise</td>
<td>95.0</td>
<td>100.0</td>
<td>95.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Facilitation/Inhibition</td>
<td>52.5</td>
<td>55.0</td>
<td>52.5</td>
<td>55.0</td>
</tr>
<tr>
<td>Positioning</td>
<td>65.0</td>
<td>72.5</td>
<td>67.5</td>
<td>75.0</td>
</tr>
<tr>
<td>Psychological/Psychological</td>
<td>95.0</td>
<td>95.0</td>
<td>92.5</td>
<td>97.5</td>
</tr>
<tr>
<td>Physical Agent Modalities</td>
<td>35.0</td>
<td>47.5</td>
<td>25.0</td>
<td>47.5</td>
</tr>
<tr>
<td>Splints/Braces</td>
<td>27.5</td>
<td>30.0</td>
<td>15.0</td>
<td>40.0</td>
</tr>
<tr>
<td><strong>Myofascial Release Soft Tissue</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Mobilization</td>
<td>67.5</td>
<td>70.0</td>
<td>57.5</td>
<td>75.0</td>
</tr>
<tr>
<td>Postural Control</td>
<td>85.0</td>
<td>92.5</td>
<td>80.0</td>
<td>95.0</td>
</tr>
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<td><strong>Enabling Methods</strong></td>
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<td>62.5</td>
<td>52.5</td>
<td>67.5</td>
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<td>Gross Motor</td>
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<td>22.5</td>
<td>22.5</td>
<td>25.0</td>
</tr>
<tr>
<td>Cognitive Retraining</td>
<td>92.5</td>
<td>95.0</td>
<td>92.5</td>
<td>97.5</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>85.0</td>
<td>82.5</td>
<td>82.5</td>
<td>87.5</td>
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<td>Patient Education</td>
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<td>22.5</td>
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<td>Practice Boards</td>
<td>27.5</td>
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<td>Visual-Perceptual training</td>
<td>55.0</td>
<td>57.5</td>
<td>52.5</td>
<td>67.5</td>
</tr>
<tr>
<td>Adaptive Equipment</td>
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<td>40.0</td>
<td>60.0</td>
<td>60.0</td>
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<td><strong>Fine Motor</strong></td>
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<td>82.5</td>
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<td><strong>ADL performance in clinic</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>20.0</td>
<td>17.5</td>
<td>20.0</td>
<td>22.5</td>
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<tr>
<td>Compensatory Training</td>
<td>47.5</td>
<td>52.5</td>
<td>50.0</td>
<td>55.0</td>
</tr>
<tr>
<td><strong>Leisure or Arts/Crafts in clinic</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vocational/Education-like activities</td>
<td>20.5</td>
<td>22.5</td>
<td>32.5</td>
<td>33.3</td>
</tr>
<tr>
<td>Community-Based activities</td>
<td>15.0</td>
<td>15.0</td>
<td>12.5</td>
<td>17.5</td>
</tr>
<tr>
<td>Home Management Tasks in clinic</td>
<td>37.5</td>
<td>42.5</td>
<td>35.0</td>
<td>50.0</td>
</tr>
<tr>
<td><strong>Occupational Performance/Occupational Roles in Natural Environment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADL in natural environment</td>
<td>80.0</td>
<td>75.0</td>
<td>75.0</td>
<td>82.5</td>
</tr>
<tr>
<td>Work/productive in natural environment</td>
<td>42.5</td>
<td>50.0</td>
<td>55.0</td>
<td>55.0</td>
</tr>
<tr>
<td>Leisure in natural environment</td>
<td>70.0</td>
<td>75.0</td>
<td>77.5</td>
<td>80.0</td>
</tr>
</tbody>
</table>

*Note. ADL = activities of daily living.*
is displayed on each bar of Figure 1. Percent Used Scores are interpreted as, for example, 69% of adjunctive methods listed on the OTPC that were checked as being used during the early phase of occupational therapy treatment (Adjunctive-Early Percent Used Score).

**Discriminate validity.** To test the discriminate ability of the OPTC, two groups were identified from the 40 clients seen in the occupational therapy clinic completing the testing; 28 clients were classified as having neurological disorders related to a stroke or brain injury, and 12 clients were classified as without neurological disorders (having fractures, arthritis, an amputation, or emphysema). Based on chi-square tests and t-tests, there were no statistically significant differences between groups for gender; race; marital, living, or employment status; number of children; receipt of physical or speech therapy; age; length of stay; or education level. We hypothesized that clients should receive different intervention strategies depending on their diagnosis. According to Gutman (2001), occupational therapy for persons with neurological disorders would uniquely consist of cognitive retraining, visual perceptual training, and facilitation and inhibition techniques. These techniques would be unnecessary and ineffective for persons without neurological disorders. There were statistically significant differences in occupational therapy practices between the two groups, and those differences are displayed in Table 2.

**Clinical consistency and usefulness.** Following the study, a focus group with the participating occupational therapists examined the profiles of practices shown in Tables 1 and 2 and Figure 1. They reported that these profiles were consistent with the treatment they provided. When examining the frequency of occupational performance tasks reported throughout the treatment process, we asked the participating therapists to explain their rationale in checking these items. They stated that during occupational therapy sessions, they consulted with clients and their families on aspects of home and work modifications, work simplification, or activities in the community. They considered this consulting and problem solving as occupational performance practices. Although they also made home and job on-site evaluations and recommendations, they believed that consulting on community-based occupations improved performance in these settings.

After the study was completed, the research team met with a large group of occupational and physical therapists and administrative staff to describe the results and explore the usefulness of the OTPC and consistency of findings. They found the OTPC useful in clinical practice, easy to score, and convenient to use, consistent with the standards set by Andresen (2000) and Corcoran and Fischer (2000).

### Table 2. Differences in Occupational Therapy Practices Between Groups With and Without Neurological Conditions

<table>
<thead>
<tr>
<th>Practice</th>
<th>Neurological Group (N=28)</th>
<th>Non-Neurological Group (N=12)</th>
<th>Chi-Square Statistic</th>
<th>Significance test, χ²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilitation/Inhibition: Early and Late</td>
<td>20</td>
<td>2</td>
<td>10.18**</td>
<td>.002</td>
</tr>
<tr>
<td>Facilitation/Inhibition: Middle</td>
<td>21</td>
<td>2</td>
<td>11.70**</td>
<td>.001</td>
</tr>
<tr>
<td>Physical Agent Modalities: Early</td>
<td>5</td>
<td>8</td>
<td>9.12**</td>
<td>.004</td>
</tr>
<tr>
<td>Physical Agent Modalities: Middle</td>
<td>9</td>
<td>9</td>
<td>6.23**</td>
<td>.015</td>
</tr>
<tr>
<td>Physical Agent Modalities: Late</td>
<td>2</td>
<td>8</td>
<td>15.87**</td>
<td>.000</td>
</tr>
<tr>
<td>Cognitive Retraining: Early</td>
<td>11</td>
<td>0</td>
<td>6.50**</td>
<td>.009</td>
</tr>
<tr>
<td>Cognitive Retraining: Middle and Late</td>
<td>10</td>
<td>0</td>
<td>5.71*</td>
<td>.015</td>
</tr>
<tr>
<td>Visual-Perceptual Training: Early</td>
<td>12</td>
<td>0</td>
<td>7.35**</td>
<td>.005</td>
</tr>
<tr>
<td>Visual-Perceptual Training: Middle</td>
<td>13</td>
<td>0</td>
<td>8.25**</td>
<td>.003</td>
</tr>
<tr>
<td>Visual-Perceptual Training: Late</td>
<td>9</td>
<td>0</td>
<td>5.0*</td>
<td>.025</td>
</tr>
<tr>
<td>Leisure/Arts and Crafts: Late</td>
<td>23</td>
<td>6</td>
<td>4.35*</td>
<td>.045</td>
</tr>
<tr>
<td>Vocation/Education-like Activities: Early</td>
<td>3</td>
<td>5</td>
<td>4.76*</td>
<td>.043</td>
</tr>
<tr>
<td>Vocation/Education-like Activities: Middle</td>
<td>3</td>
<td>6</td>
<td>7.44**</td>
<td>.012</td>
</tr>
</tbody>
</table>

Note. * = Significant at the .05 level. ** = Significant at the .01 level. Chi-square degrees of freedom = 1 with N = 40.

**Discussion**

The overall reliability of the OPTC at .91 was high (coefficients at or above .80 are considered acceptable, Pedhazer & Schmelkin, 1991) and suggests that there is one common
factor underlying this measure. Subscale reliability coefficients were also adequate. Content and face validity of the OTPC were supported by this study.

Construct validity is supported by findings over time that reinforce the theoretical soundness of the measure through evidence of criterion validity. In this study, we sought to validate the OTPC as congruent with the Model of Occupational Performance (Pedretti, 1996) that guided the measure design. If the Model and the OTPC were congruent, then more adjunctive methods would be used early in treatment, more enabling and functional tasks would be used in the middle, and more occupational performance tasks would be used later in treatment. Although the pattern of therapy interventions shown in Figure 1 suggests a weak trend toward this temporal sequence, it is not significant and far from robust under even visual inspection. Instead, adjunctive and occupational performance tasks were used throughout the phases of occupational therapy; purposeful activities were used least often.

As seen in Table 1 and Figure 1, therapists tended to use many interventions throughout the phases of occupational therapy. The process of occupational therapy was dynamic and holistic rather than linear. Strictly speaking, this finding fails to support the validity of the OTPC as a measure of practice based on the Model of Occupational Performance or, conversely, the results fail to support the hierarchical sequence of the Model. Instead, the results seem to support clinical reasoning tenets (Fleming, 1991) that occupational therapists incorporate a diverse range of interventions and consider several ideas simultaneously during treatment. Thus, the Model of Occupational Performance provided the content domains and temporal sequence for the OTPC, but the results of this study support a more complex model of clinical reasoning and integrated practice of occupational therapy. Further research with the OTPC might clarify the nature of clinical reasoning using complementary models of organization and process.

Ratings of the OTPC differentiated between the treatment of clients with and without neurological disorders as shown in Table 2. Clients with neurological disorders received more facilitation and inhibition, visual perceptual training, and cognitive rehabilitation; they were more often engaged in hobbies and crafts late in therapy. These differences are consistent with standards for treatment with brain injury found in the study by Gutman (2001). In contrast, the group without neurological disorders received more physical agent modalities and vocational activities. Other practices—such as psychological interventions, splinting, problem solving, and occupational performance tasks—were used equally for both groups. These practices seem to transcend diagnostic groups as common to occupational therapy practice in adult physical rehabilitation.

There are obvious limitations to this study that merit consideration. The pilot sample size was small and limited to one setting. Netemeyer et al. (2003) recommended that at least 300 cases be used to test a scale with 27 items to support factor analysis, not performed in this study. Netemeyer et al. also recommended having more items than needed and deleting items that do not contribute to the validity of the measure. The item analysis in this study failed to consistently identify any items that could be eliminated from the OTPC. In our effort to be parsimonious and simple, we may have prematurely eliminated potentially useful items for the OTPC. The therapists rated the OTPC at different times in the therapy process and the influence of timing on recall is unknown. Moreover, therapists’ interpretation of clinical interventions expanded beyond the direct therapy session to include consultation on occupational performance in the community. On one hand, this is a limitation, but such examination of clinical reasoning may have implications for future studies of occupational therapy practice. The Percent Used Scores are based on the assumption that all possible practices are included in the OTPC. Although this study suggests content validity, it is unlikely that the OTPC includes all interventions used so that modifications or expansions of the OTPC may be needed for other settings. Further validation of the OTPC should include interrater reliability with observers and therapist ratings, comparison to chart and billing codes, videotaping and scoring the OTPC, pairing with client or family self-report measures (Nelson & Mathiowetz, 2004), and testing in other settings.

The study of occupational therapy practices is crucially important, especially when paired with outcome measures; such research will validate the effects of occupational therapy and advance practices supported by evidence. The OTPC is a first attempt to list and describe the process of occupational therapy and provides a baseline for continued efforts. The use of categories of intervention and measures of temporal sequence were useful to practitioners, easy to score, and brief, and met the criteria established by the research group for a process measure of occupational therapy practice. The OTPC was designed using a collaborative group process between faculty members, students, and practitioners in several disciplines throughout the research process that enriched and simplified the measure. The OTPC is potentially useful in research efforts, especially those seeking to describe and validate aspects of typical practice. ▲
Appendix

Occupational Therapy Practice Checklist

Please circle the appropriate letter(s) for each applicable intervention category listed below. You may circle up to two letters for any treatment intervention category.

E = early stage of treatment
M = middle stage of treatment
L = late stage of treatment
T = provided throughout

E M L T Evaluations (e.g., motor, sensory, ADL, visual/perceptual, other)
E M L T Exercise
E M L T Facilitation/Inhibition (e.g., NDT, Rood)
E M L T Positioning (e.g., wheelchair)
E M L T Psychosocial/Psychological (e.g., coping, motivation)
E M L T Physical agent modalities
E M L T Problemsolving with client to adapt environment, performance, or skill for ADL, work, or leisure activities
E M L T Problem solving with client to adapt environment, performance, or skill for ADL, work, or leisure activities
E M L T Patient education about condition/impairment
E M L T Practice boards (e.g., clothing fasteners, hardware)
E M L T Visual-perceptual training
E M L T Adaptive equipment
E M L T Fine motor (e.g., pegboards for perceptual motor)
E M L T ADL (e.g., feeding, hygiene, dressing, mobility)
E M L T Communication (e.g., written, verbal)
E M L T Compensatory training
E M L T Leisure or arts/crafts
E M L T Vocation/Education-like activities
E M L T Community-based activities (e.g., grocery shopping)
E M L T Home management tasks performed in occupational therapy clinic (e.g., meal preparation)
E M L T ADL performance at home or in community
E M L T Work/productive activity at home or in community
E M L T Play/leisure activities at home or in community
E M L T Other
E M L T Other
E M L T Other

_______ Number of Occupational Therapy Treatment Sessions
_______ Date the Chart was closed.

Note: ADL = Activities of daily living; NDT = neurodevelopmental treatment.

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References


