Person–Environment Assessments in Occupational Therapy

Lori Letts, Mary Law, Patty Rigby, Barbara Cooper, Debra Stewart, Susan Strong

Key Words: reliability of tests • validity of tests

In recent years, occupational therapists have become increasingly aware of the role that the environment plays in determining occupational performance. This interest reflects a broadening of the profession’s views, which now acknowledge the influence of external factors, particularly the social, cultural, and physical environment, on the occupational function of the person (Canadian Association of Occupational Therapists, 1991; Christiansen, 1991). However, professional focus has tended to remain on the immediate and intimate environment of the person rather than on the broader milieu. Law (1991) supported this wider view and suggested that occupational therapy interventions consider all disabling and enabling environmental factors that affect the lives of persons with disabilities. The recognition that the environment includes broader political, economic, institutional, and societal elements will require occupational therapists to use assessments that explore function relevant to these factors.

The purpose of this paper is to review environmental assessments that would enable occupational therapists to approach practice from a person–environment perspective. The literature review outlines some key theoretical ideas about the environment and the transactional nature of person–environment relationships.

Theoretical Models of Person–Environment Fit

Theoretical models of person–environment fit have been proposed by many disciplines, including planning, architecture, psychology, gerontology, and human geography. Useful examples were described by Bronfenbrenner (1977, 1986), Baker and Intagliata (1982), Kahana (1982), Kaplan (1983), Lawton (1986), Moos (1980), Healthy Communities (Healthy Toronto 2000 Subcommittee, 1988), and Weisman (1981). Although the purposes un-
derlying the development of person–environment models may vary, the models themselves share many ideas, including a focus on the person, the environment, the relationship between the person and the environment, and the achievement of an adaptive person–environment relationship. In all instances, the term environment is broadly defined to include physical, social, cultural, and organizational elements.

The Person

Models of person–environment relationships may conceptualize the person as an individual or as a member of a group. Regardless, they all center on the person as he or she functions within the social or physical environment. The models may focus on the observable competence of the person (Lawton, 1986) or on less visible attributes, such as personal desires, perceptions, knowledge, beliefs, values, and attitudes (Baker & Intagliata, 1982; Baker, Jodrey, & Intagliata, 1992). Others highlight collective concerns, such as the interaction between groups and the organizational or social milieus within which they live (Berlin, 1989; Healthy Toronto 2000 Subcommittee, 1988; Moos, 1980; Moos, Lemke, & David, 1987; Weisman, 1981, 1983).

The Environment

The theoretical models emphasize different characteristics of the environment. Some (Baker & Intagliata, 1982) consider that the person’s perceptions of the environment are most important; others (Kaplan, 1983) are more concrete and emphasize the tangible choices available to the person. Some theorists (Bronfenbrenner, 1977; Kahana, 1982) have placed primary significance on the social environment, some (Weisman, 1981, 1983) have stressed the physical environment, and others (Moos, 1980; Kahana, 1982) have emphasized the social and organizational factors of the environment. Regardless of emphasis, additional environmental components are always acknowledged and may even be equally emphasized (Berlin, 1989; Healthy Toronto 2000 Subcommittee, 1988; Lawton, 1986).

The Person–Environment Relationship

All theories describe an interactive relationship between the person and the environment. The transactional nature of these interactions is often acknowledged, particularly as the interrelatedness of person and environment affects research methods and measurement. A high degree of variance in response to environmental situations is possible (Baker & Intagliata, 1982); variability in the degree of interdependence among the environmental subsystems within which human interaction occurs has also been noted (Bronfenbrenner, 1977). This diversity reflects the differences normally present in society, and various theorists have stated that it may be easier or better to adapt the environment than to try to change the person (Healthy Toronto 2000 Subcommittee, 1988; Lawton, 1986).

Adaptation

In occupational therapy, the term adaptation is used to describe a good fit between the person and the environment; it implies a positive relationship between persons who function well and supportive environments. Although theorists differ about which environmental and personal factors are the most critical for achieving an ideal state, they agree that both sides of the person–environment equation should be addressed (Law et al., in press). Adaptation occurs when a person is functioning in a specific environmental context, but because both the person and the environment are constantly in flux, this is an ever-changing process. The notion of an interwoven, dynamic relationship between the person and the environment, which cannot be easily separated, is therefore central to the transactional nature of these models.

Relevance to Occupational Therapy

As occupational therapists assume more community-based roles, these ideas become increasingly relevant. External influences, including legislative changes such as the Americans With Disabilities Act of 1990 (Public Law 101–336) and the Independent Living Movement, will also hasten this involvement (American Occupational Therapy Association, 1993). To respond to the challenge of practicing with a transactive approach, occupational therapists will need assessments that focus on the concept of adaptation and promote the evaluation of the person in his or her environment. We reviewed existing assessments, focusing on those most useful to occupational therapy practice.

Method

We identified 67 environmental assessments and checklists through a literature review and discussion with clinical experts. Using criteria such as whether they had been published and what studies using them had been completed, we eliminated those assessments that were not truly environmental or were simply a checklist of characteristics with no method of scoring.

Assessments applying qualitative methods, such as participant observation, focus group interviews or individual interviews, were not reviewed. The use of these methodologies for environmental assessment is increasing and may provide contextually relevant material about persons’ experiences with their environments (Patton, 1990). However, because these methods cannot be cate-
Assessments Reviewed

The 41 remaining environmental assessments were categorized as discrete instruments and because they require time and skill to use, they are not included here.

The 41 remaining environmental assessments were evaluated for (a) purpose, (b) the environmental attribute assessed, (c) the application of the assessment, (d) clinical utility, (e) instrument development, and (f) psychometric testing, which includes reliability and validity (Law, 1987, 1991).

Results

Assessments Reviewed

The assessments (see Table 1) are designed to address a broad range of environmental attributes, including cultural, institutional, physical, and social areas; however, most focus on the physical and social attributes of the environment. Most of the assessments are meant to be used with individual persons or communities, particularly the institutional community. Many have roots in the clinical areas of gerontology and mental health.

Three broad categories of environmental assessments emerged. First, a number of assessments determine how persons habitually use the environments in which they live. An example of this set is the Multiphasic Environmental Assessment Procedure (MEAP) (Moos & Lemke, 1988), which consists of five subscales that examine different components of sheltered care settings such as nursing homes, residential care facilities, and congregate apartments. These subscales consider the physical attributes of the building, as well as policies and programs offered within the institution, and provide a comprehensive, conceptual picture of the functions of a sheltered care facility. Another example, The Workplace Environment Scale (Moos, 1981), focuses on staff member and employee perceptions and expectations of the social climate of the workplace.

The second category of assessments includes measures of environmental preference that identify the environmental characteristics endorsed by individuals in a given environment. For example, the Environment Preference Questionnaire (Kaplan, 1977) distinguishes the environmental preferences of people on seven different dimensions, including such concepts as nature, romantic escape, and modern development. Another example, the Quality of Life Interview (Lehman, 1988), first identifies conditions or level of functioning in nine domains and then rates satisfaction within each domain.

The final category includes barrier-free design assessments that identify potential barriers to access and safety hazards. These include specific recommendations about standard dimensions for wheelchair accessibility (e.g., Kelly & Snell, 1989), examinations of the environmental and personal characteristics that influence functional abilities (e.g., Maltais, Trickey, Robitaille, & Rodriguez, 1989), and evaluation of the ability to function safely in the home (e.g., Community Occupational Therapists and Associates, 1991; Oliver, Blathwayt, Brackley, & Tamaki, 1993).

Only a few of the environmental assessments reviewed were developed as applications of theory. For example, Moos and Lemke's (1988) conceptualization of the four components of the environment have guided the development of the MEAP. Similarly, the Multilevel Assessment Instrument (Lawton, Moss, Fulcomer, & Kleban, 1982), which examines the behavioral competence of elderly persons in their physical and social environments, incorporates Lawton's (1986) key theoretical concepts of competence and press.

Clinical Utility

Evaluation of clinical utility focuses on the clarity of instructions, cost, format of completing instruments, and the qualifications required to use the assessments. The usefulness of the assessments for occupational therapy practice is also considered.

Administration methods for the instruments vary, ranging from self-administered (Kaplan, 1977) or self-report questionnaires (Cohen, Mermelstein, Kamarck & Hoberman, 1985) to objective, observer-administered assessments (Russell, 1980). The cost of the assessments is generally low (less than $100), and most do not require special training courses to administer.

The potential usefulness of the assessments to occupational therapists ranges from application with an individual client in his or her home environment, to use within a community for the purpose of reducing barriers to access to public spaces (e.g., libraries) or to the workplace.

Instrument Development

This category refers to the construction of the instruments, the level of measurement, and the standardization. An examination of the items reveals that most instruments include relevant characteristics of the attribute being measured. Excellent ratings were given if instrument development relied on a comprehensive literature review or a survey of expert opinion.

Manuals are available for 28 of the 41 assessments listed in Table 1. In general, these have clear instructions, and some have undergone extensive content validation through the instrument development process (e.g., Moos & Lemke, 1988).

In the majority of the instruments reviewed, nominal data are collected for individual items, usually through a checklist requiring dichotomous responses. This approach seems appropriate for these instruments. Some instruments (e.g., Harms, Cryer, & Clifford, 1990; Lehman, 1988), use Likert scales to rate individual items. Most of the instruments reviewed provide a method to...
## Table 1
Environmental Assessments

<table>
<thead>
<tr>
<th>Instrument Title and Author</th>
<th>Environmental Attributes Measured</th>
<th>Environmental Application</th>
<th>Purpose — To Determine</th>
<th>Clinical Utility</th>
<th>Instrument Development</th>
<th>Psychometric Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.</strong> The Accessibility Checklist (Golzman et al., 1992)</td>
<td>Physical</td>
<td>Community</td>
<td>Accessibility of buildings and outdoor facilities</td>
<td>Survey checklists for a large number of physical spaces (e.g. playgrounds, retail areas)</td>
<td>Useful in consultation with other professionals</td>
<td>Manual with clear instructions</td>
</tr>
<tr>
<td><strong>2.</strong> Assessment of Home Environments (Yarrow et al., 1975)</td>
<td>Social and cultural</td>
<td>Family</td>
<td>Adequacy of the infant’s early developmental environment at home (ages: newborn to 6 months)</td>
<td>Structured observations Limited instructions</td>
<td>Useful for each intervention</td>
<td>Nominal data Content not justified</td>
</tr>
<tr>
<td><strong>3.</strong> Assessment Tool (Malaitis et al., 1989)</td>
<td>Physical</td>
<td>Individual</td>
<td>Environmental barriers in a house, specific to functional limitations of an elderly person</td>
<td>Structured questionnaire Clear instructions</td>
<td>Useful to promote independence of clients in their homes</td>
<td>Manual available</td>
</tr>
<tr>
<td><strong>4.</strong> Behavioral Environment Assessment Technique (Whitehead et al., 1984)</td>
<td>Social</td>
<td>Community</td>
<td>How adults behave in or use institutional space</td>
<td>Structured observations</td>
<td>Useful for institutional planning, evaluation of environmental modifications</td>
<td>No manual</td>
</tr>
<tr>
<td><strong>5.</strong> Child Care Accessibility Checklist (Meto Toronto Community Services, 1991)</td>
<td>Physical</td>
<td>Community</td>
<td>Barrier-free accessibility of child care centers</td>
<td>Direct observation and measurement of the environment Clear instructions</td>
<td>Useful for determining physical accessibility</td>
<td>Manual available</td>
</tr>
<tr>
<td><strong>6.</strong> Classroom Environment Scale (Trickett &amp; Moos, 1973)</td>
<td>Social</td>
<td>Individual</td>
<td>Aspects of classroom: psychosocial environment salient to students and teachers</td>
<td>Questionnaire 3 forms, 90 items for each</td>
<td>Useful for consultation within a classroom</td>
<td>Manual available</td>
</tr>
<tr>
<td><strong>7.</strong> Classroom Environment Index (Stern &amp; Walker, 1971)</td>
<td>Social</td>
<td>Individual</td>
<td>Student’s perception of the classroom environment</td>
<td>Self-administered questionnaire 300 true/false statements</td>
<td>Useful to describe classroom variables (e.g. achievement level) and student-environment fit</td>
<td>Manual available</td>
</tr>
<tr>
<td><strong>8.</strong> Disability Rights Guide (Goldman, 1991)</td>
<td>Economic and Institutional</td>
<td>Individual</td>
<td>Problems affecting persons with disabilities in accessing their community</td>
<td>Self-report questionnaires address institutional barriers to accessibility</td>
<td>Useful for community planning, advocacy</td>
<td>Questionnaires are contained within textbook</td>
</tr>
</tbody>
</table>
### Table 1 (cont'd.)
Environmental Assessments

<table>
<thead>
<tr>
<th>Instrument Title</th>
<th>Environmental Attributes Measured</th>
<th>Environmental Application</th>
<th>Purpose – To Determine</th>
<th>Clinical Utility</th>
<th>Instrument Development</th>
<th>Psychometric Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. Environment Assessment Index (Porovsky, 1987)</td>
<td>Physical Social</td>
<td>Family</td>
<td>Educational and developmental quality of the home environment for children ages 3 to 11 years living in rural communities</td>
<td>Questionnaire; structured interview and observations</td>
<td>Manual available from author Item selection based on literature review and expert opinion Nominal data</td>
<td>One reliability study: internal consistency Validity: content validity with factor analysis; concurrent and predictive correlations</td>
</tr>
<tr>
<td>10. Environment Assessment Scale (Kanzeiger, 1986)</td>
<td>Economic and Institutional</td>
<td>Individual</td>
<td>Characteristics of the occupational therapy clinical environment as perceived by the psychiatric client</td>
<td>Structured interview Useful for individual program planning program evaluation</td>
<td>Manual available from unpublished source No norms Nominal data Comprehensive item selection</td>
<td>Internal consistency and test-retest reliability established Criterion and content validity testing underway Unknown reliability and validity</td>
</tr>
<tr>
<td>11. Environmental Competence Questionnaire (CMHC, 1982)</td>
<td>Physical Social</td>
<td>Individual Community</td>
<td>Competence of elderly persons living independently in their homes</td>
<td>Questionnaire; structured interview Instructions not provided Useful for direct service to adults with physical limitations</td>
<td>No manual Item selection appears adequate</td>
<td>Unknown reliability and validity</td>
</tr>
<tr>
<td>12. Environmental Grid Description Assessment (Dunning, 1972)</td>
<td>Physical Social Cultural</td>
<td>Individual Family</td>
<td>Person's relationship with environmental space, persons, and tasks</td>
<td>Semi-structured interview No instructions Useful as a client-centered assessment of occupational choice</td>
<td>No manual Item selection appears adequate</td>
<td>Unknown reliability and validity</td>
</tr>
<tr>
<td>14. Environmental Response Inventory (McKechnie, 1974)</td>
<td>Social</td>
<td>Individual Family Community</td>
<td>Differences in the ways persons habitually interact with the environment</td>
<td>Questionnaire, can be completed independently Clear instructions Useful for career, lifestyle counseling, program planning</td>
<td>Manual available Item selection based on literature review limited by factor analysis Ordinal data</td>
<td>Reliability unknown Content, construct, criterion validity established</td>
</tr>
<tr>
<td>16. Home Observation for Measurement of the Environment (Caldwell &amp; Bradley, 1979)</td>
<td>Physical Social Cultural</td>
<td>Family</td>
<td>Adequacy of a child's early developmental environment at home (ages: newborn to 6 years)</td>
<td>Structured observations and interview with parents Clear instructions Useful for consultation and family education</td>
<td>Manual available Item selection based on factor analysis Nominal data</td>
<td>Internal consistency and test-retest reliability tested adequate statistical results Content and construct validity established</td>
</tr>
<tr>
<td>Instrument Title and Author</td>
<td>Environmental Attributes Measured</td>
<td>Environmental Application</td>
<td>Purpose—to Determine</td>
<td>Clinical Utility</td>
<td>Instrument Development</td>
<td>Psychometric Testing</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----------------------------------</td>
<td>---------------------------</td>
<td>----------------------</td>
<td>-----------------</td>
<td>-----------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>17. Home Modification Workbook (Adaptive Environments Center, 1988)</td>
<td>Physical</td>
<td>Individual</td>
<td>Home safety and potential for independent function of elderly individuals' homes</td>
<td>Questionnaire and observations in checklist format Useful to structure modifications to home for an individual's needs</td>
<td>Manual available Content justified Nominal data</td>
<td>Unknown reliability Content validity addressed during instrument development</td>
</tr>
<tr>
<td>18. Importance, Locus, and Range of Activities Checklist (Hulicka et al., 1975)</td>
<td>Physical, Social</td>
<td>Individual</td>
<td>Individual's perceived latitude of choice in ADL</td>
<td>Interview with checklist Clear instructions Useful for client-centered program planning</td>
<td>No manual available Item selection process not well described Ordinal data</td>
<td>Test-retest reliability established Construct and content validity tested</td>
</tr>
<tr>
<td>19. Infant-Toddler Environment Rating Scale (Harms et al., 1990)</td>
<td>Social</td>
<td>Community</td>
<td>Quality of center-based child care for children up to 30 months of age</td>
<td>Structured observation Clear instructions Useful for consultation, program planning</td>
<td>Manual available Item selection based on other scales Ordinal data</td>
<td>Interrater, test-retest and internal consistency established Content and criterion validity established</td>
</tr>
<tr>
<td>21. Life Stressors and Social Resources Inventory (Moos, Fenn, &amp; Billings, 1988)</td>
<td>Physical, Social</td>
<td>Individual, Family, Community</td>
<td>Common life stressors and social resources that influence well-being</td>
<td>Semi-structured interview Clear instructions Useful for direct service, consultation and community planning</td>
<td>Manual available Item selection based on literature review and expert opinion Nominal data</td>
<td>Internal consistency established Content validity based on factor analysis</td>
</tr>
<tr>
<td>22. Modification Checklist (CMHC, 1988)</td>
<td>Physical</td>
<td>Individual, Community</td>
<td>Accessibility barriers of a house or apartment</td>
<td>Checklist based on observations Clear instructions Useful for direct service</td>
<td>Manual available Item selection based on opinions of clinical experts, disabled persons, rehabilitation centers, architects, etc Nominal data</td>
<td>Unknown reliability Content validity based on instrument development</td>
</tr>
<tr>
<td>23. Multilevel Assessment Instrument (Lawton et al., 1982)</td>
<td>Social</td>
<td>Individual</td>
<td>Well-being and behavioral competence of elderly persons at home and in community</td>
<td>Structured interview Limited instructions Useful for comprehensive assessment of function in an environment</td>
<td>No manual Item selection based on literature review and expert opinion Nominal data</td>
<td>Internal consistency established Content validity established</td>
</tr>
<tr>
<td>24. Multiphasic Environmental Assessment Procedure (Moos &amp; Lemke, 1988)</td>
<td>Physical, Economic</td>
<td>Community</td>
<td>Adequacy of sheltered care settings</td>
<td>Structured questionnaire in five parts Clear instructions Useful for consultation in sheltered care settings</td>
<td>Manual available Item selection based on theory, literature review, and experts Ordinal and interval data Norms available</td>
<td>Internal consistency, interrater and test-retest reliability established Content, construct validity established</td>
</tr>
<tr>
<td>Instrument Title and Author</td>
<td>Environmental Attributes Measured</td>
<td>Environmental Application</td>
<td>Purpose — To Determine</td>
<td>Clinical Utility</td>
<td>Instrument Development</td>
<td>Psychometric Testing</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----------------------------------</td>
<td>---------------------------</td>
<td>------------------------</td>
<td>-----------------</td>
<td>-----------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>25 Need Satisfaction of Activity Interview (Tickle &amp; Yerxa, 1981)</td>
<td>Social</td>
<td>Individual</td>
<td>Person’s preferences for activities within his/her environment</td>
<td>Interview</td>
<td>Clear instructions</td>
<td>No manual instructions available in published paper</td>
</tr>
<tr>
<td>26 Perceived Environment Constrain Index (Wolk &amp; Telleen, 1976)</td>
<td>Economic Institutional</td>
<td>Individual Community</td>
<td>Level of personal autonomy allowed in a geriatric residential setting</td>
<td>Self-report questionnaire</td>
<td>Instructions available in text</td>
<td>Unknown reliability</td>
</tr>
<tr>
<td>27 Person-Environment Fit (Kahana, 1974)</td>
<td>Physical Social Economic Institutional</td>
<td>Individual Community</td>
<td>Congruence between residential environment and elderly individual</td>
<td>Self-report questionnaire</td>
<td>No manual item selection comprehensive</td>
<td>Unknown reliability and validity</td>
</tr>
<tr>
<td>28 Person-Environment Fit Scale (Coulton, 1979)</td>
<td>Physical Social Economic Institutional</td>
<td>Individual Community</td>
<td>Person-environment fit</td>
<td>Self-report questionnaire</td>
<td>No manual item selection comprehensive</td>
<td>Unknown reliability and validity</td>
</tr>
<tr>
<td>29 Planner’s Guide to Barrier-Free Meetings (Russell, 1980)</td>
<td>Physical</td>
<td>Community</td>
<td>Barrier-free accessibility of facilities for group meetings</td>
<td>Checklist</td>
<td>Manual available from author</td>
<td>Internal consistency established</td>
</tr>
<tr>
<td>31 Play History (Takata, 1969; Behnke &amp; Petkovich, 1984)</td>
<td>Physical Social Cultural</td>
<td>Individual Family</td>
<td>Child’s past and present play experiences and environmental opportunities</td>
<td>Semi-structured interview</td>
<td>Manual available item selection based on ANSI standards Nominal data</td>
<td>Unknown reliability</td>
</tr>
<tr>
<td>32 Quality of Life Interview (Lehrman, 1988)</td>
<td>Social</td>
<td>Individual</td>
<td>Satisfaction in nine life domains</td>
<td>Interview</td>
<td>Manual available item selection based on literature review Ordinal data</td>
<td>Internal consistency and test-retest reliability tested</td>
</tr>
<tr>
<td>33 Readily Achievable Checklist (Grotburg et al., 1991)</td>
<td>Physical</td>
<td>Community</td>
<td>Barriers to accessibility</td>
<td>Structured observations and measurements</td>
<td>Manual available item selection based on literature review Ordinal data</td>
<td>Unknown reliability</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Instrument Title and Author</th>
<th>Environmental Attributes Measured</th>
<th>Environmental Application</th>
<th>Purpose To Determine</th>
<th>Clinical Utility</th>
<th>Instrument Development</th>
<th>Psychometric Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>34. Safety Assessment of Function and the Environment for Rehabilitation (COTA, 1991)</td>
<td>Physical Social</td>
<td>Individual</td>
<td>Ability of the elderly person to function safely in his or her home</td>
<td>Checklist using observations and interview Clear instructions Useful for community-based practice, discharge planning</td>
<td>Manual available from author Item selection based on literature review, clinician and consumer opinion Nominal data</td>
<td>Internal consistency established Content and construct validity tested</td>
</tr>
<tr>
<td>36. Source Book (Kelly &amp; Snell, 1989)</td>
<td>Physical Individual</td>
<td>Environmental barriers in a house, specific to functional limitations of a person with physical disabilities</td>
<td>Structured questionnaire, observations, and guidelines Clear instructions Useful for direct service, consultation</td>
<td>Manual available Item selection based on literature review and expert opinion Nominal data Standards based on ANSI and CSA</td>
<td>No reliability testing Content validity addressed in instrument development</td>
<td></td>
</tr>
<tr>
<td>37. Tenant Interview (Howell, 1980)</td>
<td>Social Community</td>
<td>Behavioral preferences of adults living in congregate housing</td>
<td>Structured interview Clear instructions Useful for program planning</td>
<td>Manual available Item selection based on literature review and expert opinion Nominal data</td>
<td>Unknown reliability and validity</td>
<td></td>
</tr>
<tr>
<td>38. Therapeutic Environment Guidelines (Chambers et al., 1986)</td>
<td>Economic Institutional Community</td>
<td>Attributes of residential lodges for adults needing long-term care</td>
<td>Checklist to use with observations and unstructured interview Clear instructions Useful for consultation</td>
<td>Manual available Item selection based on literature review and expert opinion Nominal data</td>
<td>Unknown reliability Content validity based on instrument development</td>
<td></td>
</tr>
<tr>
<td>39. UCP-OT Initial Evaluation (Colvin &amp; Korn, 1984)</td>
<td>Physical Family</td>
<td>Physical barriers to the care of children with cerebral palsy within their own home environment</td>
<td>Semi-structured questionnaire using observations and interview Clear instructions Useful in community practice</td>
<td>No manual available Item selection based on ANSI standards Nominal data</td>
<td>Unknown reliability Content validity addressed in instrument development</td>
<td></td>
</tr>
<tr>
<td>40. Work Environment Scale (Moos, 1981)</td>
<td>Social Individual Community</td>
<td>Interpersonal environment of workplace as perceived by employees and staff members</td>
<td>Structured questionnaire Clear instructions Useful for direct service, workplace consultations</td>
<td>Manual available Item selection based on theory, literature review, expert opinion Nominal data</td>
<td>Internal consistency and test-retest reliability established Content validity based on factor analysis Unknown reliability Content validity addressed during instrument development</td>
<td></td>
</tr>
<tr>
<td>41. Workplace Workbook (Mueller, 1990)</td>
<td>Physical Individual</td>
<td>Environmental barriers in a workplace</td>
<td>Structured observations and measurements for barrier-free accessibility Useful for preparing the work environment for a person with a physical disability</td>
<td>Manual available Content justified Nominal data</td>
<td>Unknown reliability Content validity addressed during instrument development</td>
<td></td>
</tr>
</tbody>
</table>

**Note.** ADA = Americans With Disabilities Act, UFAS = Uniform Federal Accessibility Standards, ANSI = American National Standards Institute, ADL = activities of daily living, CMHC = Canada Mortgage and Housing Corporation, COTA = Community Occupational Therapists and Associates, UCP-OT = United Cerebral Palsy-Occupational Therapy, CSA = Canadian Standards Association.
calculate a summary score based on the responses of individual items. Although such summary scores are desirable, there is a tendency to interpret them as interval data, which may be inappropriate (Streiner & Norman, 1989).

The use of norms in environmental assessments might be controversial. For example, it has been argued that norms in environments such as the home settings of infants allow the observer to assess the environment against standards and identify environments that require intervention to optimize development (Krauss & Jacobs, 1990). On the other hand, because all types of environments vary greatly and responses to them are not homogeneous, the existence of an ideal or standard environment is debatable. Only five of the assessments reviewed have norms. Where assessments are based on building specifications, like the American National Standards Institute (ANSI) specifications or government building codes, these minimal standards themselves have become the norms or criteria for comparison. In these instances, the use of specifications as norms seems appropriate.

**Psychometric Testing**

Psychometric testing considers the evaluation of the reliability and validity of assessments. The criteria used to review the reliability studies on these instruments were based on the number of studies undertaken, the appropriateness of the statistics used, and the acceptability of the results (Law, 1987).

The amount of reliability testing on the assessments varied considerably. Many of these assessments are in common use but have not been examined for this attribute. For example, The Child Care Centre Accessibility Checklist (Metropolitan Toronto Community Services Department, 1991) and the Environment Response Inventory (McKechnie, 1977) remain untested. In contrast, the MEAP (Moos & Lemke, 1988) has undergone extensive reliability testing for all subscales, as have the Infant Toddler Environment Rating Scale (Harms et al., 1990) and the Interpersonal Support Evaluation List (Cohen et al., 1985).

The extent to which an instrument is measuring what it is intended to measure, our criteria for review of validity, included the number of validity studies undertaken, the type of validity evaluated (content, construct, criterion), and the results of those studies.

Content validity has been clearly established for 35 of the 41 assessments. For example, barrier-free design assessments that are based on building codes or other specific standards have content validity because they evaluate the environment comprehensively in terms of those standards. Most of the validity studies reported focus only on this factor. Although this is an appropriate first step, further studies to explore construct and criterion validity should follow.

**Case Study**

Clearly, there are many ways to view the person, the environment, and person-environment fit. The occupational therapist working to promote the adaptive fit of clients within their environments has a rich choice of assessments. A case example illustrates this point.

The client is a 25-year-old man who sustained a closed head injury at 17 years of age from a motor vehicle accident. He is currently not employed and lives with his parents in a small town of 5,000 people. The client dresses independently, although not always properly for the season. He is able to manage other activities of daily living, although he may require verbal reminders. He does not manage any instrumental activities of daily living, including management of even small amounts of money. The home is a two-story building within which the client is independently mobile. To get to the center of town, he walks but finds the walk tiring. The client spends most of his time watching television at home.

The occupational therapist might take a number of approaches when working with this client. The initial interview could be used to explore the client’s perceived problems in the areas of work, self-care, and leisure. This approach might lead to the client stating that he is eager to work, but has failed in his attempts to secure employment in the past 2 years. As well, he might identify that he wants to be left alone more often by his parents, that he does not need them to tell him what clothes to put on, and so on. He may also be anxious to be responsible for his own bank account.

One environmental assessment that could be used to explore areas of the client’s life is the Person-Environment Fit Scale (Coulton, 1979). This scale would allow the client and the occupational therapist to examine the client’s perceptions of the fit between the environment and his abilities in a number of areas, including economic issues, activity, order and control, family role expectations, and work aspirations. Once they identify the areas where there is a lack of congruence between the client’s needs and the environment, intervention can focus on improving that fit. For example, the results of this assessment might indicate that the client perceives that his family does not expect enough from him. This perception may be confirmed through discussion with the parents and may set the stage for negotiating roles and expectations that gradually increase the client’s abilities in this regard. The intervention could involve the development of routines for the client (intervention on the person) and provide cues in the environment to support the client’s efforts while gradually decreasing the involvement of the parents (intervention on the environment). A focus on both the person and the environment may improve the client’s chance of success.

Work may also be an area where the client feels a lack of fit: he currently wants to be working and responsible for his own banking, but is not. An environmental assessment that could be useful is the Work Environment Scale (Moos, 1981). One questionnaire within this instrument focuses on client perceptions of an ideal work environ-
ment, with an emphasis on the social components of the work environment. On the basis of the client’s ideals, and the results of assessments of the client’s abilities, negotiation with a workplace in the community might be possible. Intervention could appropriately go beyond the level of the person, for example when negotiating expectations and roles within his community to find an appropriate work role with which the client could be satisfied.

By focusing on the transaction between the client and the environment throughout the occupational therapy process, the therapist can choose from a broad range of interventions. The ultimate objective remains consistent with occupational therapy: to promote optimum occupational performance.

Summary

Many of the theoretical concepts and assessments reviewed in this article can be usefully applied in occupational therapy practices where the focus is on person-environment fit. They allow us to expand practice by providing a broader view of both the client and his or her environment and increase the choice of interventions available that can promote the independence of clients within their environments.

References


**Coming in August:**

- Relationship between occupational form and occupational performance: A kinematic perspective
- Comparing motor and process ability in home versus clinic in persons with suspected dementia
- Effect of cancer diagnosis and treatment on hand function
- Identifying the best applicants for educational programs

Turn to *AJOT* for the latest information on occupational therapy treatment modalities, aids and equipment, legal and social issues, education, and research.