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Environmental Contexts: Considerations for Therapy

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Environmental Contexts: Considerations for Therapy

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Occupational Therapy

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TITLE

Environmental Contexts: Considerations for Therapy

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GENERAL DISCUSSION STATEMENT

Occupational therapists have long recognized the importance of considering the context in which performance takes place. Many models currently in use, such as the Person-Environment-Occupation Model (PEO), Model of Human Occupation, and Canadian Model of Occupational Performance, provide a theoretical context within which occupational therapists can consider the influence of the environment on function. Currently, little evidence has been supplied to support or deny the effect of the environmental context on performance. The challenge for occupational therapists is to demonstrate in service delivery that, indeed, the environmental fit is a crucial aspect of treatment.

CLINICAL SCENARIO

The role of occupational therapy in making recommendations for living arrangements for clients with physical and/or cognitive impairments sheds light on the topic of accuracy of assessment of daily living skills in familiar vs. unfamiliar settings. In a sample scenario, a female client, age 71, was diagnosed with dementia two years prior. She was recently referred to OT services for safety concerns in the home, particularly with meal preparation activities. The client had left the stove on several times over the past few months. She has lived with her husband for the past 60 years. She is typically left alone in the home during the weekdays, as her husband works and attends to errands. While clinical assessments led therapy staff to recommend that this client receive 24-hour assistance to ensure safety in the home, the OT made a home visit and observed the client’s performance level home to be significantly higher than her performance in the clinic in several areas. This scenario leads the authors to wonder if assessment of daily living skills provides occupational therapists with more accurate information about client performance if administered in a familiar setting as opposed to an unfamiliar, clinical setting.

FOCUSED CLINICAL QUESTION

Does environmental context (naturalistic vs. clinical settings) affect client’s performance during occupational therapy rehabilitation/assessments?
SUMMARY OF SEARCH

A comprehensive database search was conducted, and one best-evidence article was selected for review. A total of fifteen articles were analyzed, each with a specific focus on one particular population of clients with cognitive and/or physical impairments. Clients diagnosed with dementia, CVA, or TBI/ABI were the most common populations studied among all fifteen articles. While several articles provided evidence suggesting that clients performed significantly better on specific assessments items (i.e. motor skills) performed in the home, rather than in the clinic, other articles found no significant difference among the two settings. One article reviewed five studies that examined the differences between home and clinic environments on performance in ADL assessments (Bottari, Dutil, Dassa, & Rainville, 2006). This article concluded that, while overall findings showed performance to be significantly better in the home environment, the limited number of studies found does not provide sufficient evidence to support the superiority of either setting (Bottari et al., 2006). However, this study found that, in order for assessment tools to have ecological validity, ADL assessments should be completed in a familiar home or community environment to accurately assess performance, given the environmental complexity of real-world contexts (Bottari et al., 2006).

Evidence from ten out of the fifteen studies found a significant difference among assessment performance in at least one assessment category or in satisfaction level between the home and clinic. Six of these ten studies provided quantitative evidence that participants performed better in one specific test item assessed in home than they did in the clinic (Hoppe, Davis, Thompson, 2003; Park, Fisher, & Velozo, 2004; Durand & Loisel, 2001; Mayo et al., 2000; Nygard, Bernspang, Fisher, & Winblad, 2004; Toneman, Brayshaw, Lange, & Trimboli, 2010). The remaining four studies found significant qualitative results revealing that home is the preferred setting, according to client report and/or survey (Devlin, T. 2007; Doig et al., 2011a; Doig et al., 2011b; Kotzer, Zacharakis, Raynolds, & Buenning, 2011). Overall, these results suggest that environmental contexts in therapy should be considered when assessing performance of daily living skills in order to make accurate decisions about interventions and discharge plans. Findings suggest that the impact on environmental context on performance on assessments is a topic that is minimally documented, demanding further attention and research by occupational therapists.

CLINICAL BOTTOM LINE

In addition to structuring intervention plans to ensure optimal therapy outcomes, occupational therapists have the power to help determine living arrangements of clients based on assessments and observations of performance in daily living skills. Performance on assessments administered in an unfamiliar, clinical setting may prove to be quite different than performance in a familiar, home setting, as an unfamiliar setting demands new learning that may not be necessary for independence in daily living skills. For this reason, consideration of contexts for assessments and therapeutic interventions is imperative, as environmental factors can directly impact the client’s ability to perform daily living activities.

Important note on the limitation of this CAT

This critically appraised paper (or topic) has been peer-reviewed by one other independent person/lecturer, but is not to be viewed as the opinions of or endorsed by Pacific University, The School of Occupational Therapy.

SEARCH STRATEGY

Terms used to guide the search strategy

- Patient/Client Group: clients receiving occupational therapy services
- Intervention (or Assessment): naturalistic setting
- **Comparison:** clinical setting
- **Outcome(s):** positive rehabilitation and accurate assessment of ability

### Databases and Sites Searched

<table>
<thead>
<tr>
<th>Databases and Sites Searched</th>
<th>Search Terms</th>
<th>Limits Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>PsychINFO, ProQuest, CINAHL, AMED, Medline,</td>
<td>Occupational therapy, Rehabilitation, Environment/setting/context, Clinic/</td>
<td>Written in English, Peer reviewed,</td>
</tr>
<tr>
<td>Health and Medical Complete, PsyInfo,</td>
<td>clinical/hospital/inpatient, Natural/naturalistic/home/home care, Outpatient</td>
<td>Full text, Published between</td>
</tr>
<tr>
<td>Cochrane Database of Systematic Reviews,</td>
<td>Outcomes/results, Assessment/AMPS/quality of life/happiness/satisfaction,</td>
<td>1990-2012</td>
</tr>
<tr>
<td>EBM Database of Abstracts of Reviews of</td>
<td>Physical results/health/wellness/function/abilities, Populations – dementia/</td>
<td></td>
</tr>
<tr>
<td>Effects, Health and Psychosocial Instruments,</td>
<td>TBI/early Alzheimer’s/physical disabilities/mental health, Views/personal</td>
<td></td>
</tr>
<tr>
<td>OTDBASE</td>
<td>opinion/qualitative, Home-based rehabilitation/community-based rehabilitation</td>
<td></td>
</tr>
</tbody>
</table>

### INCLUSION and EXCLUSION CRITERIA

#### Inclusion Criteria

- Studies investigating both qualitative and quantitative methodology
- Peer reviewed studies
- Studies focused on the environmental context of the occupational therapy session
- Studies focused on the occupational assessment outcomes in varying environments
- Studies published in English between 1990 and 2012
- Assessment results and/or functional/mental/emotional improvement as a primary outcome

#### Exclusion Criteria

- Studies published prior to 1990

### RESULTS OF SEARCH

A total of 15 studies were located and categorized as shown in Table 1 (based on Levels of Evidence, Centre for Evidence Based Medicine, 2011).

#### Table 1: Summary of Study Designs of Articles Retrieved

<table>
<thead>
<tr>
<th>Study Design/Methodology of Articles Retrieved</th>
<th>Level</th>
<th>Number Located</th>
<th>Author (Year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systematic reviews, meta-analyses, and</td>
<td>1</td>
<td>3</td>
<td>• Duncome, 2004.</td>
</tr>
<tr>
<td>randomized, controlled trials</td>
<td></td>
<td></td>
<td>• Mayo et al., 2000.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Bottari et al., 2006.</td>
</tr>
</tbody>
</table>
Two groups, nonrandomized studies (e.g., cohort, case control) | 2 | 5 | • Doig et al., 2011b.  
• Mallinson, Bateman, Hsiang-Yi, Manheim, Almagor, Deutsch, & Heinemann, 2011.  
• Nygard et al., 1994.  
• Park et al., 1994.

One group, nonrandomized (e.g., before-after, pretest and posttest) | 3 | 3 | • Hoppes et al., 2003.  
• Kotzer et al., 2011.  
• Toneman et al., 2010.

Descriptive studies w/ analysis of outcomes (e.g., single-subject design, case series) | 4 | 0 | 

Case reports and expert opinions, which include narrative literature reviews and consensus statements | 5 | 0 | 

Semi-structured interview, grounded theory | N/A (qualitative) | 4 | • Pimentel, & Ryan, 1996.  
• Stephenson, & Wiles, 2000.  
• Devlin, 2007.  
• Doig et al., 2011a.

BEST EVIDENCE

The following study/paper was identified as the ‘best’ evidence and selected for critical appraisal. Reasons for selecting this study were:


- This paper focuses on the importance of the environmental context (for both the client and practitioner) when performing activities of daily living (ADL) assessments.
- During the review of evidence, the authors found 25 articles that presented empirical data related to ADL intervention/evaluation within a real-world environment.
- When an individual is independent in ADLs, it is a result of their competence to do things for themselves while interacting with the environment in which they live.
- Occupational therapists often use performance-based evaluations of a client’s ADLs to guide their clinical interventions.
- Assessment results are often used to determine the individual’s level of independent functioning at home and in the community.
- In order for practitioners to adequately predict the level of independent functioning for their clients, they must consider both persons’ abilities and the environmental demands that will be placed upon them after discharge.
- “It is essential for overall safety and well-being that these decisions be based on information that accurately reflects how the person’s skills and the demands of the home and community environment mesh in day to day routines and demands” (Bottari et al., 2006).
- When we assess individuals we must take into consideration the ever-changing context of their life and be aware of the supports and barriers present in multiple environments.
- It is our responsibility as evidence-based practitioners to take a look at our clinical practices in relation to research findings to determine whether ADL assessments performed in the home more accurately reflect independence than those performed in
SUMMARY OF BEST EVIDENCE

Table 2: Description and appraisal of *Choosing the most appropriate environment to evaluate independence in everyday activities: Home or clinic?* by Bottari, Dutil, Dassa, & Rainville, 2006.

**Aim/Objective of the Study/Systematic Review:**

The aim of this systematic review was to examine the influence of the context (home vs. hospital) on performance-based assessments according to specific criteria. Evidence based practice requires the examination of whether ADL assessments performed in the home more accurately reflect ADL independence than those performed in the clinic.

**Study Design**

This systematic review examined issues of context from the perspective definition of ADL independence, relevant theoretical and practice models, the concept of ecological validity, and empirical studies.

**Study Characteristics:** All 5 studies included in this review investigated the effect of context familiarity on performance. Assessments were administered in both the home and hospital or clinic setting.

**Selection Criteria:** According to this review, context has a limited effect on ADL assessments administered via questionnaire, so these studies were excluded from this review. Over one hundred abstracts were read, 25 articles presented empirical data related to ADL interventions/evaluations within a real-world environment and were examined in detail. Of those 25 studies, many were excluded due to the use of performance-based ADL observations outside the context of a standardized ADL assessment or the use of ADL assessments with acceptable psychometric qualities that were unjustifiably modified. Other studies were excluded as they compared the results of evaluations obtained on two different types of assessments in the two different contexts and because time elapsed between the assessments was too great (~2 years).

**Inclusion criteria:** empirical studies administered within a short time-interval, standardized performance-based ADL assessment in both home and clinic to persons with cerebral damage. Of the studies reviewed, five met the inclusion criteria.

**Methods:** 4 studies used the Assessment of Motor and Process Skills (AMPS), 1 study used the Structured Assessment of Independence Living Skills (SAILS).

**Outcomes measured:**
- AMPS: independence in ADLS (PADL and IADL) and underlying skills performance (motor skills and process skills)
- SAILS: 50 items representing four domains: motor abilities, cognitive abilities, IADLs, social interaction skills

**Setting**

Each study assessed participants in the home and clinic or hospital environment.

**Participants**

All studies used small samples (N=12-20) and non-random selection of patients. The limitations are as follows:
- Since 4 of the 5 studies were done with subjects living in the community at the time of
evaluation, their results cannot be generalized to individuals awaiting discharge, as their home environment has likely been previously adapted to their personal needs.

- Only 1 of the studies was done with individuals currently in the hospital awaiting discharge.
- The home environment may feel new/different to people who have been in the hospital for weeks or months prior to the assessment.
- “Due to the profound physical or cognitive changes that can occur after TBI, persons may not recognize their home environment” (Bottari, et al. 2006).

### Intervention Investigated

#### Control

All five studies investigated the effect of context familiarity on performance. Assessments were administered in both a familiar setting (home) and an unfamiliar setting (hospital or clinic). Only 1 study was done with hospitalized patients awaiting discharge.

#### Experimental

- Two studies (Darragh et al., 1998; Park et al., 1994) divided the subjects into 2 groups with half the sample tested first in the clinic and the other half tested first in the home.
- Nygard et al., (1994) tested all subjects in the clinic first. The time between the 2 tests varied from 2 hours to 5-29 days after discharge.
- Trained AMPS raters (5-day training session) administered all AMPS assessments.
- There is no information given on environmental demands (complexity of available appliances, elevated noise levels or cluttered physical space) in either the clinic or home assessment.

###Outcome Measures

1) **Assessment of Motor and Processing Skills (AMPS)** (Cooper-McNulty & Fisher, 2001; Nygard et al., 1994; Darragh et al., 1998; Park et al., 1994)

This observation based assessment was completed by participants to measure independence in ADLs and underlying skill performance in motor and processing skills in both naturalistic and clinical environments. The research coordinator administered the AMPS by asking the participant to select two or three ADL tasks to perform from a list of 83 standardized tasks. The participant performed their chosen task within a familiar setting (home) and an unfamiliar setting (clinic). Two studies (Darragh et al., 1998; Park et al., 1994) divided the subjects into two groups with half the sample tested first in the clinic and the other half tested first in the home. Nygard et al. (1994) tested all subjects in the clinic first. The time between the two tests varied from 2 hr (Park et al.) to anywhere between 5 and 29 days after discharge (Cooper-McNulty & Fisher, 2001). Trained AMPS raters (5-day training session) administered all AMPS assessments. Performance was rated on 16 motor skills and 20 process (organisational/adaptive) skills. Each was rated on a four-point rating scale: (1) deficit, (2) ineffective, (3) questionable, and (4) competent. Scores are then transformed into interval level scores using a many faceted Rasch Model. ADL tasks are calibrated on two common linear scales of increasing ADL ability, that is an ADL motor scale and an ADL process scale.

2) **Structured Assessment of Independent Living Skills (SAILS)** (Hoppes et al., 2003)

The SAILS measure functional abilities in persons with dementia through observation based assessment. It consists of 50 items representing four domains: motor abilities, cognitive abilities, instrumental activities of daily living and social interaction skills. Tasks were administered by the research coordinator in a laboratory-based test with artificial materials and simulated daily life scenarios and reassessed in the person’s real-world environment. Ten participants were rated by two raters (test-retest) over a 1-week
Tasks are scored on an ordinal scale of 0–3 based on typical performance, speed and number of errors.

## Main Findings

Five studies were reviewed for this systematic review. Four studies used the AMPS assessment in measuring independence in ADL and skills performance; one study used the SAILS assessment designed to measure functional ability in persons with dementia. Overall, the findings suggest that there was a statistically significant mean difference in ADL ability of participants when assessments were conducted in client’s familiar home environment vs. clinical environment. A study by Hoppes et al. (2003), which used the SAILS assessment, found that persons with dementia performed significantly better only on motor tasks in the home environment (P = 0.01). Although, Park et al. (1994) which used the AMPS assessment on an older adult population reported a significant difference only in process ability measures, with better performance found in the home environment (p < 0.05). Darragh et al. (1998), found that IADL mean process ability was significantly better in the home (P = 0.025), but overall did not effect motor ability by study participants with moderate to severe TBI (as cited in Bottari et al., 2005). Nygard et al. (1994) reported no significant effect in mean IADL motor or process ability measure. Cooper-McNulty and Fisher found that process ability measures assessed within the home had greater predictive value of home safety than motor ability (as cited in Bottari et al., 2005).

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</thead>
<tbody>
<tr>
<td><strong>AMPS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor</td>
<td>Not assessed</td>
<td>No significance</td>
<td>No significance</td>
<td>No significance</td>
<td>No significance</td>
</tr>
<tr>
<td>Process</td>
<td>Not assessed</td>
<td>Significantly better in home environment (p&lt;0.05)</td>
<td>Significantly better in home environment (t = -4.28, P = 0.025)</td>
<td>No significance</td>
<td>Process ability measures assessed within the home had greater predictive value of home safety (r = 0.75, P = 0.01)</td>
</tr>
</tbody>
</table>

| **SAILS** |                     |                   |                     |                     |                             |
| motor    | Performed significantly better in the home but only in motor tasks (t = 2.925, P = 0.01) | Not assessed | Not assessed | Not assessed | Not assessed |
## Original Authors’ Conclusions

- Due to a limited number of studies that directly compare environmental context (home vs. clinic) on assessments of independence in ADL for individuals with cerebral damage the author is not able to provide strong evidence supporting either environment.
- The author states that ecological validity research supports measuring independence in ADLs of a client in their real-world environment.
- It is important to consider the client’s needs and abilities before determining if a home or clinical assessment would be most appropriate.
- Hypothesised that ADL assessments in the home are more meaningful to clients.
- Future research should select assessments whose administration protocols consider real-world environmental demands and be based on hospitalized persons awaiting discharge.

## Critical Appraisal

### Validity

- This review has a clearly focused question presented in the title.
- Relevant information was gathered from a wide variety of online databases, including the following: Medline, CINAHL, PsyInfo, Cochrane Database of Systematic Reviews, Current Contents, EBM Database of Abstracts of Reviews of Effects, Health and Psychosocial Instruments, and OTDBase. Researchers also analyzed the references of articles found. This reduces database bias; however, there is potential for source bias, as only online databases were used to collect data rather than use of varying sources, such as hand searching of journals and books.
- Researchers systematically examined the methodological rigor of only five articles that met inclusion criteria for review. However, they initially read over 100 abstracts and analyzed twenty-five articles relevant to the topic, minimizing overall bias.
- This study addresses the importance of the ecological validity of assessments to obtain accurate inferences.
- **Selection:**
  - Studies selected may skew results of this review, as a variety of populations were included that do not necessarily meet the selection criteria of specifically including individuals with cerebral damage (i.e. older adults and a mixed sample of psychiatric inpatients).
  - All studies included in the review involved non-random selection of participants and had small sample sizes, limiting the analysis of overall results.
  - Four of the five studies reviewed included participants living in the community at the time assessed, which may lead to selection bias of participating studies and results that cannot be generalized to patients who are hospitalized awaiting discharge.
  - Three of the five studies reviewed had a possible selection bias for people with less severe cognitive impairments, as all participants lived with a significant other or alone at the time.
  - There were not enough studies included in the review that consisted of hospitalized patients awaiting discharge (only one included). This limits the interpretation of results, as reduced familiarity with the home environment for this particular population is an important factor to consider when assessing an individual in home (typically familiar) versus clinical (typically unfamiliar) settings.
- Strengths and weaknesses of each study reviewed and each assessment used were clearly presented.
- The data analysis process was unclear, as a coding protocol was not explained in detail. Classification tables used to examine sensitivity, specificity, and predictive validity for each study were not included in the review, and the number of assessors was not addressed. Thus reliability of the coding process could not be determined.
The results section clearly indicated a significant difference in home versus clinic settings for ADL assessment; however, evidence was not sufficient for supporting the superiority of either environment due to the limited number of studies reviewed. This review gives clear recommendations for future research and implications for practice.

Interpretation of Results

The findings from the systematic review suggest that there was a statistically significant mean difference in ADL ability between performance in the home versus the clinic. Performance was reported to be significantly better in the home environment. The five articles that were reviewed, however, all reached slightly different conclusions. Hoppes et al. (2003) found that persons with dementia performed significantly better only on motor tasks in the home environment. Alternatively, a study with older adults conducted by Park et al. (1994) reported a significant difference only in process ability measures, with better performance found in the home environment. Another study by Darragh, Sample, and Fisher, which focused on patients with moderate to severe TBI, determined that IADL mean process ability was significantly better in the home (P = 0.025), but no overall effect was seen for motor ability (as cited in Bottari et al., 2005). Nygard et al. (1994) was the only study to report no significant effect in mean IADL motor or process ability measure. Cooper-McNulty and Fisher concluded that process ability measures assessed within the home had greater predictive value of home safety than motor ability (as cited in Bottari et al., 2005). Given that 4 out of the 5 studies were with subjects currently living in the community, results cannot easily be generalized.

While differences were shown to occur in the home environment compared to in the clinic, the effect cannot be generalized to any specific type of performance (e.g. motor, process, IADL, ADL) or population.

Summary/Conclusion

Bottari et al. (2006) asserts that occupational therapists often work under the basic assumption that performance is best understood in context. An assessment completed in the clinic may or may not be an accurate predictor of performance in the home. Numerous models, such as the Person-Environment-Occupation Model (PEO), Model of Human Occupation, and Canadian Model of Occupational Performance, emphasize the importance of the environment and its effect on individual performance. The environmental context has not been sufficiently studied to validate these beliefs.

The evidence presented is limited and varied. While four out of the five articles presented by Bottari et al. (2006) indicate some effect on performance by the environment, the results are neither consistent nor generalizable. The type of performance affected, be it motor or process (as assessed by the AMPS), may be dependent on the population studied (i.e., TBI patients vs. older adults) or even the assessment used. While the studies points to an environmental effect on performance, further research needs to be conducted.
Table 3: Characteristics of included studies

| Study 1 | Park et al. (1994) | Performance in the home | Performance in the clinic | Assessment of Motor and Process Skills (AMPS) | • A significant difference was found in process ability measures between the two settings for the group as a whole and for half of the participants individually |
| Study 2 | Doig et al. (2011b) | Performance in the home | Performance in the clinic | Goal Attainment Scaling; COPM; Sydney Psychosocial Reintegration Scale; Mayo-Portland Adaptability Index; Craig Hospital Inventory of Environmental Factors; self-rated satisfaction with therapy | • The number of goals achieved were not significantly different between the two settings • There was a trend towards greater improvement following the home-based treatment phase • Participants were significantly more satisfied with home-based phase compared to hospital-based |
| Study 3 | Mayo et al. (2000) | Home based care - rehabilitation care post-stroke | Usual care dependent on facility – rehabilitation care post-stroke | Physical health component of the Measuring Outcomes Study Short Form-36 (SF-36); Timed UP and Go (TUG); Barthel Index (BI); OARS-IADL; Reintegration of Normal Living (RNL); SF-36 Mental Health Component | • No difference between the two groups on the BI or on the TUG at 1 or 3 months post-stroke, however there was a significantly beneficial impact of the home intervention on IADL and reintegration (RNL) • By 3 months post-stroke, the home intervention group showed a significantly higher score on the SF-36 Physical Health component than the usual care group |
| Study 4 | Stephenson & Wiles (2000) | Qualitative study, no intervention | Comparison intervention: No intervention | Outcomes used: Semi-structured interview | Findings:  
- Client identified advantages of home setting: convenience and comfort  
- Client identified disadvantages of home setting: lack of equipment and floor space, demotivating effect of the home setting  
- Therapists identified greater relevancy of the home environment for intervention and goal setting as advantages and difficulty determining control as a disadvantage  
- Study concluded that the assumptions about the advantages and disadvantages of community-based rehabilitation services made by service providers are not necessarily experienced or perceived by clients. |

| Study 5 | Pimental & Ryan (1996) | Qualitative study, no intervention | Comparison intervention: No intervention | Outcomes used: Semi-structured interview, questionnaires | Findings:  
- Remedial activities were used more often in hospital setting and functional activities in the community  
- A change in role from therapist to consultant was found in those working in the community and this group also placed more emphasis on keeping up to date with developments in this specialist field. |
<table>
<thead>
<tr>
<th>Study 6</th>
<th>Intervention investigated</th>
<th>Comparison intervention</th>
<th>Outcomes used</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nygard et al. (1994)</td>
<td>No intervention</td>
<td>No intervention</td>
<td>AMPS</td>
<td>• No significant group differences were found, but some subjects’ performance did differ significantly between settings</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Study 7</th>
<th>Intervention investigated</th>
<th>Comparison intervention</th>
<th>Outcomes used</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hoppes et al. (2003)</td>
<td>No intervention</td>
<td>No intervention</td>
<td>Mini-Mental State Examination (MMSE), Structures Assessment of Independent Living Skills (SAILS)</td>
<td>• Participants’ motor performance was significantly better at home than in an unfamiliar environment • Ability to adapt movement to an unfamiliar environment may decline with the onset and progression of dementia</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Study 8</th>
<th>Intervention investigated</th>
<th>Comparison intervention</th>
<th>Outcomes used</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duncome (2004)</td>
<td>No intervention</td>
<td>No intervention</td>
<td>Kitchen Task Assessment - Modified</td>
<td>• Learning new skills in the home was not better than learning in the clinic for people with schizophrenia in this study. • People in home group performed better in initial administration than people in clinical group • Further research on the effect of context recommended.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Study 9</th>
<th>Intervention investigated</th>
<th>Comparison intervention</th>
<th>Outcomes used</th>
<th>Findings</th>
</tr>
</thead>
</table>
| Toneman et al. (2010) | No intervention | No intervention | Assessment of Motor and Process Skills (AMPS) | • No statistically significant change overall • Individual results indicate a change in occupational performance • Supports previous studies, which indicate that some individuals' motor and process skill abilities appear to be affected by the environment in which they
| Study 10 | Performance in the home compared to in the clinic | No intervention | Assessment of Motor and Proccessions Skills (AMPS), Structures Assessment of Independent Living Skills (SAILS) | • Therapists should consider contexts of assessments
• There is insufficient evidence on the accuracy of assessments in a home versus a clinical context to support the superiority of either setting
• In order for assessment tools to have ecological validity, ADL assessments should be completed in a familiar home or community environment to accurately assess performance, given the environmental complexity of real-world contexts |
<p>| Study 11 | Qualitative study, no intervention | No intervention | Semi-structured interviews | • The information presented is intended to motivate occupational therapy practitioners to evaluate the rehabilitation settings in which they serve their clients |
| Study 12 | Qualitative study, no intervention | No intervention | Semi-structured interviews | • All three groups (patients, significant others, and treating therapists) indicated that home-based rehabilitation was preferred to day hospital-based rehabilitation |</p>
<table>
<thead>
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<th>Study 13</th>
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|          | No intervention        | No intervention          | The main outcome measures were self-care and mobility status at post-acute care discharge measured by using the Inpatient Rehabilitation Facility Patient Assessment Instrument (IRF-PAI). 6 self-care items and 7 mobility items | • Different kinds of patients with lower-extremity joint replacement are admitted to different post-acute care providers.  
• For patients who were healthy, less dependent, and had social support, discharge to the home with home health care seemed to be the ideal setting.  
• For some patients, in regards to functional outcomes, an IRF setting that was more therapy intensive did not appear to offer an advantage over the SNF setting. They concluded that for patients in their study, ideal rehabilitation for those who were healthy and had social support should be a direct discharge to home with home care. They also concluded that for sicker patients, there may be a need for 24-hour medical and nursing care. | |
| Study 14 | Durang & Liosel (2001)  | 3 control groups in addition to the Therapeutic Return to Work (TRW) group:  
1. FR group: “Consecutive eligible workers only having functional restoration therapy”  
2. CS group: “Control” | The Therapeutic Return to Work program:  
• A work rehab program for the injured worker is proposed to workplace management  
• An agreement is made between the occupational therapist of the team and the | The primary outcome was work status at follow-up, defined as “working” or “not working” at their regular job tasks using a questionnaire. Specific back disability was assessed using the Quebec Back Pain Disability Questionnaire and a visual analog scale was used to determine pain intensity. | This observational study showed that after 2 years, a work rehabilitation program closely linked to the workplace was efficient in returning workers with back pain to stable work at their pre-injury level. These results support the trend of recent findings on back pain management programs, showing the effectiveness of combining clinical and occupational interventions. |
| Study 15 Kotzer et al. (2011) | The design interventions that were a key factor in determining the success of the newly built hospital compared to the old hospital were changes to light, noise, temperature, aesthetics, and amenities. They also looked at safety, security, and privacy. | They were surveying family and staff to quantify their satisfaction with the old hospital environment compared to their satisfaction with the new evidence based design hospital. | For the family they created a Family Evaluation of the Built Environment (FEBE) survey available in both English and Spanish and for the staff they created a Staff Evaluation of the Built Environment (SEBE) survey. | Families and staff reported greater satisfaction with the newly built hospital environment compared to the old facility. Study results will help guide future architectural design decisions, attract and retain staff at a world-class facility, and create the most effective healing environments. |
There are a limited number of studies that have examined the influence of context on functional performance and satisfaction of OT services between the home/community setting and clinical settings. Studies that have focused on this topic do not provide clear and generalizable evidence to support the superiority of one environment over the other. Studies have been mixed in finding significant differences between performance in the clinic and home environments. However, mixed findings do not point to a lack of importance of environmental context in therapy, but rather a need for further, well-structured research to be conducted.

Several studies that did not find significant differences in the overall performance of participants between the home and clinic environment did find that at least some individuals do tend to perform better in a more familiar home environment in at least one assessment category (Duncome, 2004; Nygard et al., 1994; Toneman et al., 2010). For instance, Toneman et al. (2010) found that, while no statistically significant change was noted among AMPS scores between settings for the overall group, there were a few individual differences in both motor and process categories between home and clinic environments. Another study found that, while there were no significant results to suggest that people with schizophrenia demonstrated greater learning skills in any one setting, there were significant findings revealing that the home setting group scored higher than the clinical setting group in the initial administration of the assessment (Duncome, 2004).

The studies included in the best-evidence article utilized relatively small sample sizes, which were not randomly selected, leading to possible selection bias. Many of the studies failed to describe their sample in detail or used a sample that was highly heterogeneous and lacked common diagnoses. Furthermore, many of the studies involved participants who were living in the community at the time of evaluation (Doig et al., 2011b; Park et al., 1994), leading to further problems with generalization to clients who are hospitalized and waiting to be discharged.

Qualitative studies indicate that many clients, significant others, and therapists prefer home-based therapy over clinic or hospital-based therapy (Devlin, T. 2007; Doig et al., 2011a; Doig et al., 2011b; Mallinson et al., 2011; Stephenson & Wiles, 2000). Qualitative studies have identified the following advantages of home-based therapy: higher levels of client satisfaction, convenience and comfort of being at home, greater relevancy of home environment for intervention and goal setting, promotion of client-centeredness, functional activities rather than remedial activities, more involvement of significant others during therapy sessions, and enhanced relationships between all parties (Pimentel & Ryan, 1996; Stephenson & Wiles, 2000). The following disadvantages of home-based therapy were reported: lack of equipment and floor space, demotivating effect of home environment, lack of social contact, and difficulty for therapist to feel “in control” (Durand & Loisel, 2001; Stephenson & Wiles, 2000). One study found that the therapists may be assuming that clients are also knowledgeable about the advantages of community-based rehabilitation services (Stephenson & Wiles, 2000). This finding indicates that practitioners may need to educate their clients about the benefits of home-based therapy in order to maximize client motivation in the home environment and promote understanding regarding intervention involving functional tasks. Furthermore, when intervention takes place within the clinic, Devlin, T. (2008) states that practitioners must work to create a therapeutic environment to ensure client safety and comfort as well as to elicit active and meaningful responses to treatment.

Future research should include utilizing assessments which allow for the consideration of real-world environmental demands and include those which are based on hospitalized clients waiting to be discharged in order for results to be generalizable to this population (Bottari et al., 2006). The order in which the assessments are given in each setting should be randomized to eliminate order bias. To increase generalizability of future studies, participants in each study should be clearly defined, of a larger sample size, and randomly selected. The novelty of the home environment should be taken into consideration. Information should be gathered regarding environmental demands such as complexity of appliances, and distractions, such as
Clinical implications include the need for occupational therapists to evaluate the rehabilitation settings in which they serve their clients. Clinicians must think about how the environment is affecting the clients’ performance, task demands, therapeutic relationship, and intervention approaches. Occupational therapists should not make assumptions regarding our clients’ knowledge of how practicing skills in context may facilitate performance, and we should educate clients accordingly. No matter what the setting, occupational therapists should always be thinking about how the environment is facilitating or inhibiting a clients’ performance and level of comfort and adjust their approach accordingly.

REFERENCES


Mayo, N.E., Wood-Dauphinee, S., Cote, R., Gayton, D., Carlson, J., Buttery, J., & Tamblyn, R.,


