The Role of Personality in Understanding Behaviors Associated with Dementia

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This work was supported in part by a grant from the National Institute of Nursing Research, R01 NR008910 awarded to Ann Kolanowski.

Majority of Persons With Dementia Exhibit BPSD

These Behaviors Account for:
- Poor health outcomes
- Social isolation
- Caregiver burden
- Increased cost of LTC

Few Interventions are Effective; Psychoactive drugs are mainstay of care

Recreational Activities Show Promise, but not all are Universally Engaging

Interests are an expression of the personality
Activities are interesting when they meet needs


Using Recreational Activities to Reduce Behavioral Symptoms in Nursing Home Residents with Dementia

- Conceptual approach
- Decision process for prescription of activities
- Methods for evaluation

NDB Model

**Background Factors**
- neurological factors
- cognitive abilities
- health status (physical function)
- psychosocial factors (premorbid personality)

**Proximal Factors**
- physiological need states
- psychological need states
- physical environment
- social environment

Agitation/Passivity

Tailor to: Skill Level (cognitive and physical function) and Personality Style of Interest

Activities that are individually tailored to these background factors appropriately enrich the environment because they meet individual needs.

Skill Level and Activities

Activities matched to abilities promote “flow” experience as opposed to anxiety (over-challenging activity) or boredom (under-challenging activity).*

Style of Interest and Activities

- An individual’s long-standing disposition to gratify activity needs in particular manner
- Defined by traits of Extraversion & Openness


Style of Interest

**Extraversion**
need for social stimulation

**Openness**
need for novel experience/exploration

Personality in Dementia

Personality change is a feature of dementia; however, data support persistence of traits/facets that comprise style of interest.


Model Underlying Treatment Effect

Recreational Activities Tailored to:
- Neurological Factors
  - Cognitive Abilities
  - Health Status (physical function)
  - Psychosocial Factors (personality style of interest)

Meet Needs by Impacting:
- Physiological Need States
- Psychological Need States
  - Physical Environment
  - Social Environment

- Engagement
- Positive Affect
- Positive Mood
- Agitation/Passivity

Prescribing Activities

Need to Assess
- Cognitive Ability
- Physical Function
- Personality

Selecting Style of Interest

Look inside purse
Testing the Efficacy of Theory-based Activities

Aim: to compare the efficacy of activities matched to style of interest and skill level, activities matched to style of interest only, and activities matched to skill level only for improving engagement, mood, affect, and behavioral symptoms (agitation and passivity).

Design

Cross-over experimental design with repeated measures of dependent variables.
Sample

Inclusion criteria: English speaking; diagnosis of dementia that meets DSM-IV criteria for probable dementia; MMSE score below 24; stable dose of psychoactive drugs through study period; documentation of behavioral symptoms in MDS and/or reported by staff.

Exclusion criteria: admission to facility within past 2 months; active medical, metabolic or neurological illness; Hachinski score above 4; history of Parkinson’s disease, Huntington’s disease, stroke, alcoholism, drug abuse, psychiatric illness preceding the onset of memory loss, severe vision and/or hearing impairment; average T-score for both Extraversion and Openness; receiving any new psychoactive medication within the past 30 days.

Subject Demographics (N = 30)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Age</th>
<th>Gender</th>
<th>Race</th>
<th>MMSE</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>82.3 (± 7.5)</td>
<td>77% female</td>
<td>100%</td>
<td>8.6 (± 7.2)</td>
<td>10.9 years</td>
</tr>
</tbody>
</table>

Procedure

- Consenting subjects screened for cognitive abilities (MMSE) (Folstein, Folstein, & McHugh, 1975), functional abilities (Psychogeriatric Dependency Rating Scale; Wilkinson & Graham-White, 1980), and premorbid personality (NEO-FFI; Costa & McCrae, 1992).
- Pre-baseline—hourly observations (7 am – 7 pm) of behavior x 5 days.
- Baseline—subjects videotaped for 20 minutes/day at peak behavior times x 12 consecutive days.
- Conditions—order of conditions randomized using one of six possible order of condition presentations. Subjects videotaped during implementation of conditions (given for up to 20 minutes each day x 12 consecutive days).

Measures

- Engagement
  - Time on task (stop watch)
  - Participation (Kovatch & Magliocco, 1998)
- Affect
  - Philadelphia Geriatric Center Affective Rating Scale (Lawton, 1994)
- Mood
  - Dementia Mood Picture Test (DMPT; Tappen & Barry, 1995)
- Behavioral Symptoms
  - Cohen-Mansfield Agitation Inventory (CMAI; Cohen-Mansfield, & Billig, 1986)
  - Passivity
    - Passivity in Dementia Scale (PDS; Colling, 1998)

Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Baseline</th>
<th>(match to skill)</th>
<th>(match to interest)</th>
<th>(match to skill &amp; interest)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Condition A</td>
<td>Condition B</td>
<td>Condition C</td>
<td>Condition C</td>
</tr>
<tr>
<td>Engagement</td>
<td>Time on task</td>
<td>not measured</td>
<td>12.25 (4.1)</td>
<td>15.23 (4.9)</td>
</tr>
<tr>
<td></td>
<td>Participation</td>
<td>not measured</td>
<td>2.13 (0.6)</td>
<td>2.34 (0.7)</td>
</tr>
<tr>
<td>Affect</td>
<td>Positive</td>
<td>11.35 (2.9)</td>
<td>12.68 (1.7)</td>
<td>13.68 (1.7)</td>
</tr>
<tr>
<td></td>
<td>Negative</td>
<td>3.61 (1.4)</td>
<td>3.65 (1.5)</td>
<td>3.90 (1.5)</td>
</tr>
<tr>
<td>Mood</td>
<td>Pre</td>
<td>8.26 (2.6)</td>
<td>8.06 (2.4)</td>
<td>8.05 (2.5)</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>8.37 (2.6)</td>
<td>8.07 (2.3)</td>
<td>8.09 (2.3)</td>
</tr>
<tr>
<td>Difference</td>
<td>0.04 (0.6)</td>
<td>-0.09 (0.5)</td>
<td>0.05 (0.7)</td>
<td>0.12 (0.9)</td>
</tr>
</tbody>
</table>

Note: CMAI = Cohen Mansfield Agitation Inventory; PDS = Passivity in Dementia Scale. Significant differences from baseline were:

- Conditions A, B, and C different
- Conditions A and C different
- Conditions B and C different
- All conditions different

Results

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<td></td>
<td>Condition A</td>
<td>Condition B</td>
<td>Condition C</td>
<td>Condition C</td>
</tr>
<tr>
<td></td>
<td>MATCHING</td>
<td>MATCHING</td>
<td>MATCHING</td>
<td>MATCHING</td>
</tr>
<tr>
<td>CMAI</td>
<td>2.85 (3.4)</td>
<td>1.35 (1.0)</td>
<td>1.09 (1.5)</td>
<td>1.14 (1.3)</td>
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<tr>
<td>PDS</td>
<td>-Thinking</td>
<td>3.84 (2.8)</td>
<td>6.89 (6.0)</td>
<td>7.77 (5.7)</td>
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<tr>
<td></td>
<td>-Emotion</td>
<td>4.87 (7.2)</td>
<td>7.50 (4.9)</td>
<td>7.97 (5.5)</td>
</tr>
<tr>
<td></td>
<td>-Int environment</td>
<td>5.51 (2.8)</td>
<td>8.66 (3.7)</td>
<td>9.87 (4.4)</td>
</tr>
<tr>
<td></td>
<td>-Int people</td>
<td>7.76 (5.6)</td>
<td>12.12 (3.8)</td>
<td>13.11 (4.7)</td>
</tr>
<tr>
<td></td>
<td>-Activities</td>
<td>-3.18 (3.7)</td>
<td>1.46 (3.0)</td>
<td>2.62 (3.9)</td>
</tr>
</tbody>
</table>

Note: Significant differences from baseline were:

- Conditions A, B, and C different
- Conditions A and C different
- Conditions B and C different
- All conditions different

Conclusions:

1. Activities, in general, reduce behavioral symptoms over baseline (usual care).

2. Activities matched to style of interest and skill level improve engagement, positive affect, and passivity to a greater extent than usual care (baseline) or non-tailored activities.