Extending the Construct Validity of the Organicim-Mechanism Paradigm Inventory

John A. Johnson
Pennsylvania State University, DuBois Campus

Richard M. Howey
Hotel, Restaurant, & Institutional Management, Penn State University

Yvonne B. Reedy
Head Start

Hayley A. Gribble
Pennsylvania State University

John M. Ortiz
Center for Counseling & Psychological Services, Penn State University

Abstract

The construct validity of the Organicism-Mechanism Paradigm Inventory (OMPI; Johnson, Germer, Efran, & Overton, 1988) was extended by testing 46 hotel and restaurant administrators, 32 early childhood educators, 45 academic psychologists, and 72 psychotherapists. Predicted relationships between the OMPI and theoretical orientation, educational philosophy, vocational interests, and counseling philosophy were empirically confirmed.
Following Kuhn (1962), numerous individuals have argued that the facts and methods of any discipline are shaped by theory, and that theories, in turn, are shaped by implicit metatheories, or worldviews (Lyddon, 1989). Kuhn’s position was supported empirically in a recent study by Johnson, Germer, Efran, and Overton (1988). In their study of 119 behavioral scientists, Johnson, et al. found that dialectically oriented human developmentalists endorsed an organismic worldview, whereas behaviorists espoused a mechanistic philosophical worldview on the Organicism-Mechanism Paradigm Inventory (OMPI; Germer, Efran, & Overton, 1982). Johnson, et al. further found that one’s worldview is a function of one’s personality. Organicists, who view reality in terms of changing, holistic patterns, are imaginative, aesthetic, complex, and changeable. Mechanistics, who see reality in terms of stable, isolated elements, are down-to-earth, inartistic, simple, and predictable. The present study extends Johnson, et al.’s work and the construct validity of the OMPI by administering the OMPI to four additional samples.
Method

Subjects

Sample 1 contained 106 hotel and restaurant administrator faculty selected from the Directory of Hospitality Educators. The sample was stratified to insure representation by age, sex, area of instruction, and level and type of academic degree. Forty-six useable questionnaires were returned from this mail sample. Sample 2 contained 31 Head Start employees and 14 day care workers. Useable questionnaires were returned by 22 (3 male, 19 female) Head Start subjects and 10 (all female) day care subjects. Average age in each subsample was 34.2 years (SD = 8.9) and 28.9 years (SD = 4.7). Sample 3 contained 45 psychology faculty and graduate students (23 male, 22 female). Roughly half the subjects were clinical psychologists and the other half represented the areas of physiological, I/O, social, cognitive, developmental, and school psychology. Sample 4 contained 72 (35 male, 37 female) psychotherapists. Their mean age was 34 (range = 24-60) and the mean number of years practicing psychotherapy was 9 (range = 2-26).
Measures

All samples completed the Organicism-Mechanism Paradigm Inventory (OMPI; Germer, et al., 1982; see Appendix A). Sample 1 completed a modified version of the Theoretical Orientation Survey (TOS; Coan, 1979). The standard 64-item TOS was reduced to the 16 items showing the highest factor loadings on Coan's eight factorially derived scales. Psychological jargon was also replaced with lay language in several items. Sample 2 completed the Opinion Questionnaire for Early Childhood Educators (ECE; Reedy & Johnson, 1988). High scores on the ECE indicate a preference for an holistic teaching strategy and low scores indicate a preference for a problem-solving teaching strategy. Sample 3 was presented with descriptions of Holland's (1985) six vocational personality types. Subjects used Likert scales to describe the degree to which they resembled the six types. Sample 4 listened to excerpts of five musical and two environmental sound recordings and used six Likert scales to rate the helpfulness of each selection and the likelihood of their using the selection before, during, and after therapy with an anxious client. A factor analysis indicated the ratings could be combined into seven scales, one for each sound recording.
Results

Table 1 compares mean scores and standard deviations for all four samples with normative data collected earlier by Johnson, et al. (1988). Note that all samples scored above the mean for 100 adults chosen by stratified sampling to represent proportions of demographic variables in the United States. Thus, all groups are skewed toward the organismic end of the OMPI. Table 2 shows correlations between the OMPI and other variables. High scorers on the OMPI (organismic individuals) in Sample 1 endorsed an orientation that values theory above facts, choice over impersonal causality, and nonreductionism over physicalism. (Persons scoring lower—toward the mechanistic end—of course showed the reverse of the above portrait.) In Sample 2, organismically inclined educators tended to value an holistic over a problem-solving teaching orientation. In Sample 3, psychologists with artistic vocational interests received higher scores on the OMPI. In Sample 4, organismically oriented psychotherapists showed more positive attitudes toward using music in psychotherapy.
Validity of OMPI

Discussion

The results of the present study support the notion that the OMPI validly measures individuals' orientation toward organicism (higher scores) or mechanism (lower scores). The composite portrait of a high scorer from the four studies is consistent with the description of an organismic person: theoretical, nondeterministic, nonreductionistic, holistic, artistic, and progressive (disposed toward nontraditional methods, viz., playing background music during therapy). A lower scorer on the OMPI (mechanistic individual) is, in contrast, more factual, deterministic, physicalistic, analytically problem-solving, nonartistic, and traditional. That associations with other variables were found despite the restriction of range in OMPI scores attests to the sensitivity of the OMPI.

The associations found here between OMPI scores and scores on other measures are important because all previously presented correlational data (Germer, et al., 1982; Johnson, et al., 1988) have come from college student samples. The present study both replicates findings from these previous studies (e.g., the association between organicism and artistic interests) and also extends our knowledge of how organicism-mechanism is related to other variables.
References


Table 1

*Normative Data for the Organicism-Mechanism Paradigm Inventory*

<table>
<thead>
<tr>
<th>Sample</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Developmentalists</td>
<td>16</td>
<td>22.3</td>
<td>2.8</td>
</tr>
<tr>
<td>Clinical Psychologists</td>
<td>23</td>
<td>21.5</td>
<td>2.6</td>
</tr>
<tr>
<td>Nonclinical Academic Psychologists</td>
<td>22</td>
<td>20.2</td>
<td>3.0</td>
</tr>
<tr>
<td>Head Start Educators</td>
<td>22</td>
<td>19.7</td>
<td>3.3</td>
</tr>
<tr>
<td>Hotel-Restaurant Faculty</td>
<td>46</td>
<td>17.7</td>
<td>3.7</td>
</tr>
<tr>
<td>Day Care Teachers</td>
<td>10</td>
<td>16.7</td>
<td>3.3</td>
</tr>
<tr>
<td>U.S. Standardization Sample</td>
<td>100</td>
<td>16.1</td>
<td>4.0</td>
</tr>
<tr>
<td>College Students</td>
<td>78</td>
<td>15.5</td>
<td>3.4</td>
</tr>
<tr>
<td>Behaviorists</td>
<td>25</td>
<td>14.8</td>
<td>4.1</td>
</tr>
<tr>
<td>Nigerian Engineering Students</td>
<td>50</td>
<td>11.8</td>
<td>3.3</td>
</tr>
</tbody>
</table>

Note. Samples in **boldface** are from present study. Other samples are from Johnson, et al. (1988).
Table 2

**Correlates of the Organicism-Mechanism Paradigm Inventory**

<table>
<thead>
<tr>
<th>Sample and Variable</th>
<th>Correlation with OMPI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sample 1 - Theoretical Orientation</strong></td>
<td></td>
</tr>
<tr>
<td>Theoretical vs. Factual Orientation</td>
<td>.45**</td>
</tr>
<tr>
<td>Personal Will vs. Impersonal Causality</td>
<td>.35*</td>
</tr>
<tr>
<td>Experiential vs. Behavioral Content</td>
<td>.01</td>
</tr>
<tr>
<td>Holism vs. Elementarism</td>
<td>.19</td>
</tr>
<tr>
<td>Biological Determinism</td>
<td>-.14</td>
</tr>
<tr>
<td>Environmental Determinism</td>
<td>-.01</td>
</tr>
<tr>
<td>Physicalism vs. Nonreductionism</td>
<td>-.37*</td>
</tr>
<tr>
<td>Quantitative vs. Qualitative Orientation</td>
<td>.05</td>
</tr>
<tr>
<td><strong>Sample 2 - Educational Philosophy</strong></td>
<td></td>
</tr>
<tr>
<td>Years of Education</td>
<td>.44**</td>
</tr>
<tr>
<td>Holistic vs. Problem-Solving Teaching Strategy</td>
<td>.56***</td>
</tr>
<tr>
<td><strong>Sample 3 - Holland Vocational Types</strong></td>
<td></td>
</tr>
<tr>
<td>Realistic</td>
<td>-.09</td>
</tr>
<tr>
<td>Investigative</td>
<td>-.20</td>
</tr>
<tr>
<td>Artistic</td>
<td>.35*</td>
</tr>
<tr>
<td>Social</td>
<td>-.01</td>
</tr>
<tr>
<td>Enterprising</td>
<td>-.21</td>
</tr>
<tr>
<td>Conventional</td>
<td>-.10</td>
</tr>
<tr>
<td><strong>Sample 4 - Psychoacoustic Ratings</strong></td>
<td></td>
</tr>
<tr>
<td>Waterfall Sound</td>
<td>.22*</td>
</tr>
<tr>
<td>Bird Songs</td>
<td>.41***</td>
</tr>
<tr>
<td>Music for Zen Meditation</td>
<td>.29**</td>
</tr>
<tr>
<td>Francisque</td>
<td>.35**</td>
</tr>
<tr>
<td>Winston</td>
<td>.50***</td>
</tr>
<tr>
<td>Vivaldi</td>
<td>.38**</td>
</tr>
<tr>
<td>Bach</td>
<td>.39***</td>
</tr>
</tbody>
</table>

*p < .05  **p < .01  ***p < .001  (all one-tailed)
This is a questionnaire about how people relate to their world. Listed below are pairs of statements concerning thoughts, attitudes, and ways of behaving.

Please read each statement carefully and find the one which pertains to you more closely. No statement is more "correct" than the other.

An answer sheet is provided for your responses. Please answer all items, but circle only one statement ("a" or "b") in each pair.

1) a. Schools should be where a child learns to think for him/herself.  
    b. Schools should be where a child learns basic information.
2) a. Things really look different if we change how we see them.  
    b. Things really look different only if they are changed.
3) a. Organisms change by forces from outside themselves.  
    b. Organisms can change themselves.
4) a. A good judge is purely objective.  
    b. A good judge is not objective and knows it.
5) a. Great discoveries come from scientific imagination.  
    b. Great discoveries come from scientific experimentation.
6) a. All things stay basically the same over time.  
    b. All things change from one moment to the next.
7) a. A business executive needs time to analyze the facts.  
    b. A business executive needs time for creative thinking.
8) a. Before making a big decision, I like to sleep on it.  
    b. Before making a big decision, I like to get all the information.
9) a. Progress in science occurs when there is a new way of looking at events.  
    b. Progress in science occurs when an important observation is made.
10) a. A criminal is just a burden to society.  
    b. A criminal has a function in society.
11) a. Our knowledge is limited by our observations.  
    b. Our knowledge is limited by our imagination.
12) a. Living is a process of using up the available supplies.  
    b. Living is a process of exchanging supplies back and forth.
13) a. Events are sometimes just the same as before.  
    b. Events are always new and different in some way.

(OVER)
14) a. Divorce is often a phase in each partner's growth.
   b. Divorce is usually the result of incompatible personalities.

15) a. Facts are more useful than a good idea.
   b. Facts are less useful than a good idea.

16) a. Each relationship I have is different.
   b. Each relationship I have is much like the previous one.

17) a. Things are changed only when they are directly affected.
   b. Things are changed by everything else.

18) a. We learn by carefully examining individual facts.
   b. We learn by finding order in an array of facts.

19) a. To live independently of other people is not a realistic goal.
   b. To live independently of other people is a realistic goal.

20) a. War can be understood by examining what purpose it served.
   b. War can be understood by examining its causes.

21) a. The world is like a large, living organism.
    b. The world is like a large, complex machine.

22) a. A child discovers the world by being praised and punished.
    b. A child discovers the world by testing his/her dreams and fears.

23) a. I can change things in my family only by planned action.
    b. I can change things in my family just by being who I am.

24) a. A child's world is different from mine.
    b. A child's world is like mine, but he/she knows less.

25) a. Persons are made by their environments.
    b. Persons and their environments affect each other.

26) a. To resolve a family dispute, it is important how we look at the facts.
    b. To resolve a family dispute, it is important to discover all the facts.

Authors: C. K. Germer, J. S. Efran, and W. F. Overton
Temple University
For each pair of statements on the Paradigm Inventory, circle the letter of the statement that is closest to your own opinion.

1) a  b
2) a  b
3) a  b
4) a  b
5) a  b
6) a  b
7) a  b
8) a  b
9) a  b
10) a  b
11) a  b
12) a  b
13) a  b
14) a  b
15) a  b
16) a  b
17) a  b
18) a  b
19) a  b
20) a  b
21) a  b
22) a  b
23) a  b
24) a  b
25) a  b
26) a  b