A SURVEY OF MEASURES OF TRANSPERSONAL CONSTRUCTS

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It has been the contention of some researchers that transpersonal psychology should give serious consideration to the development, validation and use of standardized assessment instruments designed to measure transpersonal constructs as a means of facilitating the growth of the area as an empirical science (e.g., Friedman, 1983; MacDonald, Tsagarakis & Holland, 1994). In the spirit of this position, the authors of the present paper reasoned that one possible avenue of generating interest in such research tools would be to provide investigators with a comprehensive, accessible and easy-to-understand resource which presents information on measures currently available in the literature. To this end, we undertook two literature surveys to uncover measures which are available for use in transpersonally oriented research and we present our findings below. However, before discussing the nature and results of our literature searches, we believe it is important to outline the benefits and drawbacks of objective tests as well as their implications for the transpersonal domain.

STANDARDIZED ASSESSMENT INSTRUMENTS AND TRANSPERSONAL RESEARCH

Conventional quantitative research methodologies (which include standardized testing) have often been viewed by transpersonal theorists as an ineffective means of...
investigating not only the transpersonal domain (e.g., Grof, 1985; Washburn, 1988; Wilber, 1990) but also, people in general (Gilgen, Cho & Stensrud, 1980). In fact, much of the transpersonal perspective regarding objective testing can be summarized by Wilber (1990): "... once you have translated the world into empiric measurement and numbers, you have a world without quality, guaranteed" (p. 26). Indeed, given the great difficulties in simply describing and communicating transpersonal experiences (Wilber, 1977, 1990), it may seem that standardized tests, which tend generally to translate the individual into a number, have virtually no hope for furthering knowledge of the transpersonal domain.

Though we are in agreement with the common observation that transpersonal experiences are primarily trans-verbal and trans-logical and can only truly be understood through direct experiences (thus limiting all quantitative and ultimately all qualitative methods), we believe that the value of testing for transpersonally oriented research can be better appreciated if it is viewed not as a means of accessing and understanding transpersonal experience directly, but instead as a tool which can be used to explore the "expressions" of such experiences. By expressions, we are referring to the behavioral, physiological, psychological (cognitive/emotional), and sociological correlates of transpersonal experience as well as the theories (religious and secular) generated to explain these experiences (MacDonald et al., 1994).

This view of objective testing is consistent with the current understanding of the purpose, nature and limits of transpersonal psychology in three ways which we argue qualify psychometric testing as a research method worthy of consideration. First, Walsh and Vaughan (1993) define transpersonal psychology as "the area of psychology that focuses on the study of transpersonal experiences and related phenomena. These phenomena include the causes, effects and correlates of transpersonal experiences and development, as well as the disciplines and practices inspired by them" (p. 203). Given this definition, it can be understood that transpersonal psychology involves not only the direct study of transpersonal experience but also the study of the expressions and correlates of this experience, a task for which psychometric tests could prove valuable.

Second, conventional psychology has been confronted with the difficulty of defining and measuring many of its central constructs including emotion, attitudes, personality, intelligence and psychopathology. In all cases, empirical research has been made possible by linking (actually reducing) the construct to some behavior or verbalization which is viewed as embodying the construct (i.e., by operationalizing the construct). Moreover, with all the constructs mentioned above, the development and use of standardized quantitative assessment tools has flourished largely because the expression of the construct has lent itself to quantification (e.g., it can be measured with anything ranging from simple frequency counts of behaviors and verbalizations to the behavioral sequence leading to the proper completion of a behavioral task). Interestingly, one of mainstream psychology's most compelling and empirically robust theories of personality, the five factor model (Digman & Inouye, 1986; Goldberg, 1993; McCrae & Costa, 1987), has been partly developed through an examination of natural language descriptors thought to be associated with personality (e.g., Norman, 1963). In light of the fact that there are language descriptors which have been developed to express aspects of transpersonal experience and identity (e.g.,
transcendental, mystical, spiritual, holy), as well as generally predictable behaviors (and behavior changes) associated with such experiences, it appears that it may be possible to develop measures of various expressions of transpersonal experience based on how the experiencers use language in describing their experience and/or in how they behaved before, during and/or after the experience. Research has appeared which indicates that groups consisting of schizophrenics, individuals describing hallucinogenic drug states, individuals describing experienced mystical states, and individuals describing important personal experiences, can be differentiated based upon their use of language descriptors (Oxman, Rosenberg, Schnurr, Tucker & Gala, 1988).

Third, empirical research using conventional quantitative methodologies to examine the relationship of biopsychosocial and behavioral functioning to spiritual practice and experience is relatively well represented in the literature (e.g., Murphy, 1993). In addition, published research has been appearing which indicates that standardized measures of transpersonal constructs can be utilized effectively to support transpersonal theory (e.g., Cloninger, Svrakic & Przybeck, 1993; Friedman, 1983; MacDonald et al, 1994).

**BENEFITS AND LIMITATIONS OF TESTS FOR TRANSPERSONAL RESEARCH**

We strongly believe that the argument outlined above provides a rationale for pursuing the development and use of tests of transpersonal constructs in transpersonally oriented research. However, investigators opting to rely on paper and pencil measures which operationalize transpersonal constructs must be wary of their limitations both in the general sense and specifically in relation to the transpersonal area. Most of these limitations are interrelated but can be summarized as follows:

1) The operationalization problem (a.k.a. the problem of ineffability). The most obvious shortcoming of psychometric testing is the difficulty of developing tests which adequately operationalize a construct of interest. Though operationalization is inherently problematic because it results in the reduction of a phenomenon/construct to a highly constrained set of observable criteria, this limitation of testing derives most of its substance from the facts that a) in order for a test to be considered adequate, people who use a test and/or who are interested in the construct the test assesses, must come to some degree of consensus as to what type of expressions (i.e., behaviors, verbalizations) the construct embodies, and b) there has never been total agreement in any area of psychology regarding what universe of expressions constitute any given construct. This lack of agreement among scientific psychologists regarding the operationalization of any construct has contributed to the proliferation of tests for virtually every construct studied in the discipline (e.g., personality, intelligence, psychopathology; Comrey, 1988).

For the transpersonal domain, the problem of operationalization can also be seen as a major obstacle for psychometric testing. Insofar as the purpose of transpersonal psychology might be limited to the study of transpersonal experience, it has already been established that valid and complete knowledge about transpersonal states of consciousness cannot be obtained through conventional empirical methodologies.
Consequently, because such experiences are inherently ineffable, any attempt to operationalize and measure them through the use of psychometric tests, will ultimately prove insufficient in capturing their essence. Thus, a transpersonal test cannot measure anything more than an expression of spiritual experience.

2) The validity problem. Once a test has been constructed to measure a specific construct, there is then the problem of validity; how can test developers empirically demonstrate that their tests are measuring what they claim to be measuring? Though there are numerous methodologies and statistics available to help explore that question (e.g., see Anastasi, 1988; Cronbach, 1990), it is the position of modern psychometric theory that a test can never be validated in any absolute sense since the validity of any standardized measure is limited to the populations and contexts with which the measure has been empirically validated (i.e., limited external validity/generalizability). For example, a test which has been validated on white, middle-class North Americans may not provide valid information on individuals belonging to a different race, culture, and/or socio-economic class. Accordingly, all psychometric tests are highly limited in what they can tell us about human functioning.

For transpersonal psychology, the task of establishing the construct validity of a psychometric measure is especially problematic for at least two reasons. First, if it is accepted that transpersonal experience is ineffable and beyond adequate operationalization, it then is inevitable that there will be considerable skepticism regarding any claims to a test's validity regardless of the existence of any empirical support for the test. Second, if a test is ever going to gain any acceptance within the transpersonal movement, it will have to demonstrate that it can reliably differentiate between a) individuals who are known to have had spiritual experiences and people who are known to have not had such experiences, and b) individuals who are known to have had different types of transpersonal experiences. However, in order to complete such "known groups" validation, test developers need access to a sufficiently large population of people who are accurately judged as having had legitimate transpersonal experiences. As we are sure the reader can imagine, the activity of securing such a population (or a respectable sample from such a population) for test validation purposes will likely prove to be exceedingly difficult.

3) The "illusion" of spirituality problem (a.k.a., the response bias' problem or the spiritual materialism problem). This limitation derives its name from an article by Shedler, Mayman and Manis (1993) entitled "The Illusion of Mental Health." Shedler et al. (1993) demonstrated that paper and pencil measures of mental health/psychopathology cannot differentiate between psychologically healthy individuals and self-deceptive unhealthy individuals who reported on the tests that they were healthy. If psychometric testing in conventional areas of psychology is being challenged due to difficulties with response bias, then the validity of measures of transpersonal constructs must also be called into question. The reason for this can be stated as follows: can any measure designed to assess constructs such as degree of spiritual realization differentiate between people who are truly spiritual and those who endorse test items indicating they are spiritual when in fact they are not? As a more specific instance, can a psychometric test differentiate between a spiritual person and an individual who might be guilty of spiritual materialism? (Spiritual materialists are those who "de-
ceive [themselves] into thinking [they are] developing spiritually when instead [they are] strengthening [their] egocentricity through spiritual techniques” [Trungpa, 1973, p. 3]. Given the current state of knowledge about objective testing, it appears improbable that measures of transpersonal constructs would be any more successful in controlling response bias/style than conventional measures. In consideration of the fact that there are no satisfactory psychometric solutions to this limitation at present, alternative criteria (e.g., clinical judges) which aid in the reliable detection of test response bias/style should be utilized in conjunction with objective measures whenever possible.

Despite these difficulties, we contend that the development and use of psychometric tests have numerous benefits for transpersonal research including the following: 1) once adequate training in psychometrics and test construction is obtained, tests are relatively easy to construct, use, score and interpret; 2) tests can be completed in a relatively short period of time and can be administered both individually or to groups; 3) tests allow for standardized measurement of a construct thereby making it easier to compare findings from different studies and easier to replicate existing findings; 4) tests allow for fast accumulation of empirical literature on a wide variety of theories and phenomena; 5) tests can be used to verify transpersonal theory (MacDonald et al., 1994); and 6) tests allow for easier comparison between transpersonal concepts and mainstream psychological concepts. Thus, psychometric tests could promote a dynamic link between transpersonal concepts and the nomological net (Cronbach & Meehl, 1955) of mainstream psychological constructs.

In conclusion, it is our position that the transpersonal area has much to gain in using standardized tests in research. However, we must emphasize that psychometric testing is a limited methodology which can only provide useful knowledge if used properly (e.g., by having an adequate knowledge of the limits of the validity of a test and using the measure accordingly). Even though we are confident that testing research, as a quantitative research methodology, is capable of generating useful information relevant to the transpersonal domain, we recommend that it be used in conjunction with more qualitative research strategies, such as the phenomenological method (Patrik, 1994; Walsh, 1995), in studying transpersonal states of consciousness.

**Literature Search: Parameters**

This article reports the findings of two literature searches, one completed in 1992 and a second in late 1994. The searches, undertaken at three Canadian universities, partially involved the use of the PsychLit and Dissertation Abstracts CD-ROM databases. The authors, however, also obtained numerous references from books and journals of which they had knowledge at the time of the searches. In the computerized database searches, identical search terms were used. These keywords consisted of the following: spirituality, spiritual, spirit, mystical, mysticism, transpersonal, holistic, test, measure, form, questionnaire, survey, and inventory. These terms were used in combination with each other in order to ensure that as many references as possible were obtained. Note that we did not rely on any search terms explicitly involving
religion or religiosity. It was our intent only to survey the literature with regard to measures of transpersonal constructs which are not delimited by traditional notions of religion or religiosity.

Results of Literature Searches

The results of the searches were impressive; numerous measures were uncovered. However, when we made closer inspection of the literature obtained, we observed, as did Lukoff, Turner and Lu (1993) in their survey of spirituality assessment tools, that many instruments make use of terms involving religion/religiosity, most notably from a monotheistic Judeo-Christian perspective (e.g., belief in, or experience of, God). Though there are a few measures which do not rely on such terminology (e.g., Spiritual Orientation Inventory; Self-Expansiveness Level Form; Spirituality Assessment Scale) and others which do not use it in an explicitly denominational manner (e.g., Index of Core Spiritual Experience), it is reasonable to conclude that many measures of transpersonal constructs appear to be confounded with religion/religiosity at least to some extent. Consequently, researchers must be skeptical of the construct validity of most of the tests designed to assess transpersonal constructs. In particular, investigators relying on these assessment tools should give considerable thought to the degree of construct purity and validity they need in a measure if they plan on using it in a study with any given subject population. For instance, it appears very likely that measures relying on theistic terminology will demonstrate greater empirical sensitivity to individuals who subscribe to a monotheistic faith than to those people who practice nontheistic or polytheistic forms of religion/spirituality (Lukoff et al., 1993). In light of this, investigators should exercise caution in their selection of measures since the validity of the measure may be compromised or enhanced by the subject population tested”.

Notwithstanding the confound of religious and transpersonal constructs which limits many existing measures, we were still able to uncover a wide variety of questionnaires which appear to have promise as research tools in the transpersonal area. Tests which receive discussion in this article were selected because they demonstrated some, if not all, of the following characteristics: a) they seem to embody transpersonal constructs in a manner which minimize or eliminate a confound with religious concepts; b) they appear to be assessing unique constructs relative to other measures; c) they appear to have satisfactory validity and reliability; and/or d) they have been used effectively in research. Table I provides summary overviews of the measures discussed.

In selecting questionnaires which assess unique constructs, it was our intent to present the broadest range of measures possible in order to help facilitate new lines of research. In keeping with this, we have included measures of intrinsic religious motivation and paranormal beliefs/experiences in this article. The inclusion of the former measures was done because they have exhibited robust empirical relationships with transpersonal phenomena and concepts. Conversely, measures of paranormal experiences/beliefs have been included because they appear to hold potential for some areas of transpersonal research; though some theorists make a distinction between transpersonal and parapsychological phenomena (e.g., see Wilber, 1990).
It is important to note that there are a number of measures which assess constructs that a) are not entirely reducible to religion or religious constructs, and b) seem potentially useful for transpersonally oriented research, which do not receive discussion in this paper. These measures, and their primary references, are listed in a table at the end of the article (see Table 2). Lastly, the paper concludes with a table listing sources for additional measures and literature discussing issues relevant to testing (see Table 3).

**Spirituality Assessment Scale (SAS; Howden, 1992)**

The SAS was created in response to the absence of measures of spirituality for use in nursing research.

The SAS is designed to assess a conception of spirituality called the "spirituality model" which Howden (p. 6) developed through the processes of concept analysis, synthesis and derivation... as well as theory construction using various definitions of spirituality found in the philosophical, psychological, sociological, theological and nursing literature (e.g., Burkhardt, 1989; Frankl, 1963; Hungelmann, Kenkel-Rossi, Klassen & Stollenwerk, 1985; Jackson, 1980; Pilch, 1981; Reed, 1987; Sinnott, 1969; Vaughan, 1986).

According to the spirituality model, spirituality "is the dimension of one's being that is an integrating or unifying factor which is manifested through unifying interconnectedness, purpose and meaning in life, innerness or inner resources, and transcendence" (Howden, 1992, p. 15). Unifying Interconnectedness (UI) is referred to as "the feeling of relatedness or attachment to others, a sense of relationship to all of life, a feeling of harmony with self and others, and a feeling of oneness with the universe and/or a universal element or Universal being" (Howden, p. 15). Purpose and meaning in life (PML) is defined "as the process of searching for or discovering events or relationships that provide a sense of worth, hope, and/or reason for living! existence" (p. 15). Innerness or inner resources (IN) is said to involve "the process of striving for or discovering wholeness, identity, and a sense of empowerment. Innerness...[is] manifested in feelings of strength in times of crisis, calmness or serenity in dealing with uncertainty in life, guidance in living, being at peace with one's self and the world, and feelings of arability" (p. 15-16). Finally, Transcendence (TR) is seen "as the ability to reach or go beyond the limits of usual experience; the capacity, willingness, or experience of rising above or overcoming bodily or psychic conditions; or the capacity for achieving wellness and/or self-healing" (p. 16). The SAS has been designed to assess spirituality as demarcated by this definition.

The SAS as it was originally designed consisted of 44 items and used a six-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). However, based upon an evaluation of the measure's reliability and the content validity, eight items were deleted. Thereafter, four more items were dropped from the SAS based upon interim reliability calculations using the 36-item version of the instrument. Finally, a principal components analysis of the 32-item version of the SAS using a sample of
<table>
<thead>
<tr>
<th>Construct Assessed</th>
<th>Number of Items</th>
<th>Subscales</th>
<th>Response Format</th>
<th>Time to Administer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spirituality</td>
<td>28</td>
<td>1. Unifying Quality (4)</td>
<td>Six-point Likert Scale (SD-Strongly Agree; D-Disagree; DM-Disagree; AM-Agree Moderately; A-Agree; SA-Strongly Agree)</td>
<td>10 minutes</td>
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<td></td>
<td>85</td>
<td>2. Purpose and Meaning in Life: PML(4)</td>
<td>Seven-point Likert Scale (I-Intensely Disagree; 4-Neutral; 7-Intensely Agree)</td>
<td>30 minutes</td>
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<td></td>
<td>7 (Item 7 consists of 13 parts)</td>
<td>3. Innerness- IN(9)</td>
<td>Items 1-6 are Multiple Choice; Item 7: Four-point response scale (Definitely Disagree; Tend to Disagree; Tend to Agree; Definitely Agree)</td>
<td>10 minutes</td>
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<td></td>
<td>32</td>
<td>4. Transcendence-TR(6)</td>
<td>Five-Point Likert Scale (+1-Probably True; -1-Probably not True; 2-Definitely True; -2-Definitely Not True; 0-Neutral; 5-Strongly True; -5-Strongly False)</td>
<td>15 minutes</td>
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<td></td>
<td>70</td>
<td></td>
<td>True/False</td>
<td>20 minutes</td>
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<td></td>
<td>10</td>
<td>5. Material Values (6)</td>
<td>Four-point Likert Scale (A- Strongly Agree; B- Agree; C- Disagree; D- Strongly Disagree)</td>
<td>5 minutes</td>
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<td>18</td>
<td>6. Altruism (7)</td>
<td>Five-point Likert Scale (A- Very Willing; B- Somewhat Willing; C- Neutral; D- Somewhat Unwilling; E- Very Unwilling)</td>
<td>10 minutes</td>
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<td>7. Idealism (10)</td>
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<td>8. Awareness of the Tragic (5)</td>
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<td>9. Fruits of Spirituality (10)</td>
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<td>1. Ego Quality (4)</td>
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<td>2. Unifying Quality (4)</td>
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<td>3. Inner Subjective Quality (4)</td>
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<td>4. Temporal/Spatial Quality (4)</td>
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<td>5. Noetic Quality (4)</td>
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<td>6. Ineffability (4)</td>
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<td>7. Positive Affect (4)</td>
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<td>8. Religious Quality (4)</td>
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<td></td>
<td></td>
<td>1. Personal Subscale (5)</td>
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<td>2. Middle Subscale (8)</td>
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<td>3. Transpersonal Subscale (5)</td>
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**TABLE 1A**

<table>
<thead>
<tr>
<th>Characteristic Measures Discussed</th>
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<tbody>
<tr>
<td>Spirituality Spiritual Orientation Inventory (SOI)</td>
</tr>
<tr>
<td>Index of Core Spiritual Experience Scale (INSPIRIT)</td>
</tr>
<tr>
<td>Mystical Experiences Scale (M-Scale)</td>
</tr>
<tr>
<td>Peak Experiences Scale (PES)</td>
</tr>
<tr>
<td>Intrinsic Religious Motivation Scale (IRMS)</td>
</tr>
<tr>
<td>Self-Expansiveness Level Form (SELF)</td>
</tr>
</tbody>
</table>

**Primary Reference(s)**
- Howden (1992)
- Friedman (1983)
- Saunders (1988)
- Zuttermeister & (1982)
- Benson (1991)

**Construct Assessed Domains**
- Spirituality
- Core Spiritual Experience
- Mystical Experience
- Peak Experiences
- Intrinsic Religious Self-expansiveness
- Motivation
- Level Form

**Number of Items**
- 28
- 85
- 7 (Item 7 consists of 13 parts)
- 32
- 70
- 10
- 18

**Subscales**
- 1. Unifying Quality
- 2. Purpose and Meaning in Life: PML
- 3. Innerness- IN
- 4. Transcendence-TR

**Response Format**
- Six-point Likert Scale (SD-Strongly Agree; D-Disagree; DM-Disagree; AM-Agree Moderately; A-Agree; SA-Strongly Agree)
- Seven-point Likert Scale (I-Intensely Disagree; 4-Neutral; 7-Intensely Agree)
- Items 1-6 are Multiple Choice; Item 7: Four-point response scale (Definitely Disagree; Tend to Disagree; Tend to Agree; Definitely Agree)
- Five-Point Likert Scale (+1-Probably True; -1-Probably not True; 2-Definitely True; -2-Definitely Not True; 0-Neutral; 5-Strongly True; -5-Strongly False)
- True/False
- Four-point Likert Scale (A- Strongly Agree; B- Agree; C- Disagree; D- Strongly Disagree)
- Five-point Likert Scale (A- Very Willing; B- Somewhat Willing; C- Neutral; D- Somewhat Unwilling; E- Very Unwilling)

**Time to Administer**
- 10 minutes
- 30 minutes
- 10 minutes
- 15 minutes
- 20 minutes
- 5 minutes
- 10 minutes
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<thead>
<tr>
<th>Norms</th>
<th>No formal norms; Howden (1992); N=189; UI-44.95, 4.86; PML-20.38, 3.20; IN-45.63, 5.00; TR-28.23, 3.96; Total SAS-139.18, 14.30</th>
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<tr>
<td>Reliability</td>
<td>Internal consistency (alpha); Total=.92; Subscales=.72-.91</td>
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<tr>
<td></td>
<td>Internal consistency (alpha); Subscales=.75-.95</td>
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<tr>
<td>Validity</td>
<td>Content, Factorial; Criterion-see Howden (1992)</td>
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<tr>
<td></td>
<td>Content, Criterion-see Elkins et al (1988)</td>
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<td></td>
<td>Criterion, Convergent, Discriminant, Factorial-see Kass, Friedman et al (1991)</td>
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<td>Convergent, Face Validity, Discriminant, Convergent, Factorial</td>
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<td>Convergent, Discriminant, Convergent, Factorial</td>
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<tr>
<td>Controls for Response Bias</td>
<td>None</td>
</tr>
<tr>
<td>Availability</td>
<td>Howden (1992)</td>
</tr>
<tr>
<td>Other References</td>
<td>Lee &amp; Bainum (1991); Smith (1991); Zaimuddin (1993)</td>
</tr>
<tr>
<td></td>
<td>Caird (1988); Campbell (1983); Fite (1981); Hood (1977a, 1977b); Hood, Hall, Watson &amp; Biderman (1979); Hood, Manis &amp; Watson (1990); Lukoff &amp; Ll (1988); Noble (1984); Propst (1979)</td>
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<td></td>
<td>Morneau, Macdonald, Holland &amp; Holland (in press); Noble (1984)</td>
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<td>Hood (1975); Powell &amp; Thorson (1991)</td>
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<td></td>
<td>MacDonald, Tsagarakis &amp; Holland (1994)</td>
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<td>Primary Reference(s)</td>
<td>Construct Assessed</td>
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<tr>
<td>Shapiro &amp; Fitzgerald (1989)</td>
<td>Transpersonal orientation to learning</td>
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<td>Knoblauch &amp; Falconer (1986)</td>
<td>Ego Grasping (EGO)</td>
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<tr>
<td>Tobacyk &amp; Milford (1983); Tobacyk (1991)</td>
<td>Paranormal Beliefs Scale (PBS)</td>
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<td>van Quikelberghe, Alistotter-Gleich &amp; Hertweck (1991)</td>
<td>Assessment Schedule for Altered States of Consciousness (ASASC)</td>
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### Norms

(Note: When numbers are reported, they represent the Mean and Standard Deviation, respectively)

<table>
<thead>
<tr>
<th>Source</th>
<th>Norms Available</th>
<th>Controls for Response Bias</th>
<th>Validity (Note: The types of validity which have received support are stated)</th>
<th>Reliability (Internal consistency, Split-half, Test-retest)</th>
<th>Availability</th>
<th>Other References</th>
</tr>
</thead>
<tbody>
<tr>
<td>East-West item None</td>
<td>No formal norms; Knoblauch &amp; Falconer (1986) X=SS=7.97, 4.43</td>
<td>None</td>
<td>Content, Criterion, Convergent, Factorial</td>
<td>Internal consistency: Split-half: Alpha= .96 for total scale; Alpha= .79, .81; Test-retest: .72</td>
<td>Stewart B. Shapiro, Department of Education, University of California, Santa Barbara, CA 93106-9490</td>
<td>None</td>
</tr>
<tr>
<td>Adair (1990); Celenza (1986); Galvin (1990); &amp; Zywiak (1991)</td>
<td>No formal norms- see Hartmann (1991) for descriptive statistics for a variety of different samples</td>
<td>None</td>
<td>Content, Criterion, Convergent, Discriminant, Factorial</td>
<td>Internal consistency (alpha)= .91</td>
<td>Contact R. van Quekelberghe, Universitat Koblenz-Landau; Fachbereich 8: Psychologie; Im Fort 7; 6740 Landau, Germany</td>
<td>None</td>
</tr>
<tr>
<td>Celenza (1986); Galvin (1990); &amp; Zywiak (1991)</td>
<td>No formal norms- see Ruffing-Rahal (1991) for descriptive statistics on a variety of different samples</td>
<td>None</td>
<td>Criterion, Convergent, Discriminant, Factorial</td>
<td>Internal consistency (alpha)= .93 for total scale (138 items)</td>
<td>Ruffing-Rahal (1991)</td>
<td>None</td>
</tr>
<tr>
<td>Ruffing-Rahal (1991)</td>
<td>No formal norms- see Ruffing-Rahal (1991) for descriptive statistics on a variety of different samples</td>
<td>None</td>
<td>Criterion, Convergent, Discriminant, Factorial</td>
<td>Internal consistency (alpha)= .93 for total scale (138 items)</td>
<td>Ruffing-Rahal (1991)</td>
<td>None</td>
</tr>
</tbody>
</table>
### TABLE IC

<table>
<thead>
<tr>
<th>Construct Assessed</th>
<th>Primary Reference(s)</th>
<th>Number of Items</th>
<th>Subscales</th>
<th>Time to Administer (Note: These times are approximate)</th>
<th>Response Format</th>
<th>Response Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holistic Living</td>
<td>Stoudenmire, Batman, Pavlov &amp; Temple (1985)</td>
<td>80</td>
<td>1. Physical (20) 2. Emotional (20) 3. Mental (20) 4. Spiritual (20)</td>
<td>30 minutes</td>
<td>Four-point Likert scale (I-Strongly Disagree to 4-Strongly Agree)</td>
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<tr>
<td>Spiritual Well Being Scale (SWBS)</td>
<td></td>
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<tr>
<td>Norms</td>
<td>See Persinger &amp; Makarec (1993) for information on norms</td>
<td>No formal norms; see Stoudemire et al (1985) for descriptive statistics for each dimension across sex and age</td>
<td>No formal norms; see Hood &amp; Morris (1983) for descriptive statistics</td>
<td>No formal norms; see Cloninger et al (1993) for descriptive statistics</td>
<td>No formal norms; see Pekala et al (1986) for descriptive statistics on a variety of different samples</td>
<td>Extensive norms available - Bufford, Paloutzian &amp; Ellison (1991)</td>
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<tr>
<td>Reliability</td>
<td>Test-retest - .70-.90 for TTLS; Internal consistency (alpha) = .70</td>
<td>Internal Consistency (Spearman-Brown) &gt; .72-.91 for subscales</td>
<td>Internal consistency (alpha) = .53-.75 for subscales</td>
<td>Internal Consistency (alpha) = .65-.89 for subscales</td>
<td>Internal Consistency (alpha) = .65-.90 for subscale</td>
<td>Test-retest - .73-.99 Internal Consistency (alpha) = .73-.99</td>
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<tr>
<td>Validity</td>
<td>Criterion, Convergent, Discriminant, Factorial</td>
<td>Criterion, Convergent, Discriminant</td>
<td>Convergent, Factorial validity questionable</td>
<td>Criterion, Convergent, Discriminant, Factorial</td>
<td>Criterion, Convergent, Factorial validity questionable</td>
<td>Criterion</td>
</tr>
</tbody>
</table>

### Controls for Response Bias

| Controls for Response Bias | Control and Lie scales included to detect unusual responding | None | Some items are negatively worded | None | None | Half of the items are negatively worded |

### Availability

| Availability | CPELS and Control Cluster can be found in Persinger & Makarec (1987). For total PPI- McArthur St., Pascagoula, MI 39567 | John Stoudemire, Singing River Mental Health Services, 4507 McArthur St., Pascagoula, MI 39567 | C. Robert Cloninger, Dept. of Psychiatry, Washington University School of Medicine, 4940 Children’s Pl, St. Louis, MO, 63110 | Ronald J. Pekala, Ph.D., Psychology Service (116B), Coatesville Veterans Administration Medical Center, Coatesville, PA 19320 | Paloutzian & Ellison (1982); Ellison & Smith (1991) |

### Other References

189 adults aged 40-60 years, resulted in the deletion of four more items. The final version of the SAS consists of 28 items which make up the four subscales; 1) VI (9 items), 2) PML (4 items), 3) IN (9 items), and 4) TR (6 items). This version of the SAS still relies upon the six-point Likert scale. Subscale scores are obtained by summing responses to items belonging to each subscale. The total SAS score is obtained by summing the four subscale scores.

The psychometric properties of the 28 items of the SAS were examined by Howden (1992). Interitem consistency is shown to be satisfactory with coefficient alpha values ranging from .72 to .91 for the four subscales; the total SAS obtained an alpha of .92. Subscale-to-total SAS correlations were calculated and resulted in correlations ranging from .78 to .88. Subscale inter-correlations were found to range from .50 to .73. Factorial validity has been provided for the SAS by a principal components analysis which resulted in the extraction of six factors (using a varimax rotation) accounting for 64.8 percent of the total score variance. The PML and TR subscale items formed distinct factors. The VI subscale items made up two of the factors which were interpreted as reflecting connectedness to others and connectedness to life, community and the world. Similarly, the IN subscale items loaded heavily on two factors which were identified as "innerness expressed as harmony, balance, peace and relationship with Supreme Being, and . . . innerness utilized for guidance and strength, particularly in times of difficulty or struggle" (Howden, 1992, p. 124). Finally, the external validity of the SAS was examined by Howden (1992) who found that a) there is no significant relationship between the total SAS score and a recent experience of a crisis; b) there is a weak but significant relationship between total SAS scores and reported religiousness (r = .24, p < .001); and c) there is no relationship between frequency of attendance of religious events and total SAS scores.

The SAS is a measure of spirituality which does not rely upon any religious theory or terminology. Consequently, because of its nondenominational construction, this instrument shows great promise as a research tool for investigations into spirituality and its physical, psychological, and interpersonal/social correlates. The fact that the SAS is a fairly short measure also contributes to its appeal for research purposes since it would place minimal time demands on researchers and their subjects. Nevertheless, further examination of the construct validity of the SAS as well as investigations into its relationship to other measures of similar and dissimilar constructs is needed.

**Spiritual Orientation Inventory (SOI, Elkins, Hedstrom, Hughes, Leaf & Saunders, 1988)**

The SOI is "a measure of spirituality based on a humanistic model and designed to assess the spirituality of those not affiliated with traditional religion" (p. 5). The measure is the product of a content analysis of the works of numerous writers on religion and spirituality including James (1958), Jung (1964), Maslow (1970), Dewey (1934), Eliade (1959) and Frankl (1963), among others. Based on their review of the literature, Elkins et al. (1988) extracted a definition of spirituality and the spiritual person which consists of nine components. Briefly defined, these components are:
I) Transcendent Dimension: "the spiritual person has an experientially based belief that there is a transcendent dimension to life" (p. 10); 
2) Meaning and Purpose in Life: "the spiritual person has known the quest for meaning and purpose and has emerged from this quest with confidence that life is deeply meaningful and that one's own existence has purpose" (p. 11); 
3) Mission in Life: "the spiritual person has a sense of 'vocation'" (p. 11); 
4) Sacredness of Life: "the spiritual person believes life is infused with sacredness and often experiences a sense of awe, reverence and wonder even in "nonreligious" settings" (p. 11); 
5) Material Values: "the spiritual person can appreciate material goods ... but does not seek ultimate satisfaction from them nor attempt to use them as a substitute for frustrated spiritual needs" (p. 11); 
6) Altruism: "the spiritual person believes we are our "brother's keeper" and is touched by the pain and suffering of others" (p. 11); 
7) Idealism: "the spiritual person is a visionary committed to the betterment of the world" (p. 11); 
8) Awareness of the Tragic: "the spiritual person is solemnly conscious of the tragic realities of human existence" (p. 11); and 
9) Fruits of Spirituality: "the spiritual person is one whose spirituality has borne fruit in his or her life. True spirituality has a discernable effect upon one's relationship to self, others, nature, life and whatever one considers to be the ultimate" (p. 12).

Elkins et al. (1988) informally validated these nine components by having five persons they considered to be highly spiritual (from Buddhist, Catholic, Protestant and Jewish traditions) evaluate them. At their interviews, all of the evaluators supported the Elkins et al. (1988) definition of spirituality.

Based on their literature review, the interviews and their examination of existing measures of spirituality (e.g., Allport & Ross, 1967; Hood, 1970; Yinger, 1969), Elkins et al. (1988) initially constructed 200 items which, after being rated by experts, was reduced to 157 items. This served as the first research version of the SOL. After eliminating those that were found not to discriminate between people rated as highly spiritual and a group of graduate students (Elkins, 1988; see below), only 85 items were retained to operationalize each of the nine components of their definition of spirituality for the final version of the SOL. Respondents are provided with a seven-point Likert scale ranging from 1-strongly disagree to 7-strongly agree to rate the extent to which they agree with each of the items. The SOL is scored by reversing response values for negatively phrased items and summing item responses for each subscale.

The SOL has been shown to be a reliable measure with the scales of the 85-item version producing coefficient alphas ranging from .75 to .95 (Elkins, 1988; Elkins et al., 1988). Also, support for the criterion validity of the SOL has been provided: Laud and Elkins (1988) found that the mean scores of 24 adults judged as being "highly spiritual" were higher than those of 96 graduate students on all SOL subscales except Idealism. Moreover, two additional studies which used the SOL demonstrated that the measure can be used to predict differences in spirituality in various subject populations; Smith (1991) found that 172 polio survivors obtained notably greater scores than 80 non-polio subjects on all SOL subscales except Idealism. Similarly, Lee and
Bainum (1991) found that hospice workers scored significantly higher on the SOI than a sample of hospital nurses. Finally, as a point of interest, Zainuddin (1993) examined the relationship between the SOI and psychogenic needs and found that autonomy and aggression needs were the best negative predictors of spirituality. Zainuddin also found that self-actualization needs could also predict level of spirituality.

Even though the reliability of the SOI has been shown to be satisfactory, much more knowledge regarding its validity is needed before confidence can be warranted in its use in research. This is especially true with regards to construct validity (including factorial validity) and the relationship of the SOI subscales to other measures of similar constructs. Elkins et al. (1988) state that future psychometric research focusing on reliability and factorial, content and concurrent validity is to be completed. However, to our knowledge, no such work has appeared in the literature. Despite this, as was the case with the SAS, the SOI is a measure of spirituality which was designed to eliminate the confound with religious concepts and terminology. In light of this, as well as its success in differentiating between known groups of subjects, the SOI may prove to be a good instrument for research comparing/contrasting groups of individuals who are hypothesized to differ in spiritual orientation.

Index of Core Spiritual Experience
(INSPRIT; Kass, Friedman, Leserman, Zuttermeister & Benson, 1991)

According to Kass et al. (1991), the INSPRIT was developed in response to three considerations: a) measures of spiritual experience (e.g., Hood, 1970, 1975; Ring, 1984) indicate that such phenomena are fairly prevalent (e.g., Davis & Smith, 1985; Ring, 1984); b) the occurrence of spiritual experience may be associated with psychological well-being (e.g., Hay & Morisy, 1978; Hood, 1977b; Ring, 1984); and c) based on their research and clinical experiences (e.g., Benson, 1975, 1987; Bowen, Justyn, Kass, Miller, Rogers, Rogers & Wood, 1978), Kass et al. (1991) developed a notion of spiritual experience which did not seem to be accounted for by existing measures. Kass et al. (1991) add that existing measures of spiritual experience do not appear to define the construct adequately enough to account for and expose the intrinsic religious variables (i.e., spiritual experience) which are linked to health.

The INSPRIT is a measure of "core spiritual experience," a construct which Kass et al. (1991) state is made up of two discernable elements, namely,

1) a distinct event and a cognitive appraisal of that event which resulted in a personal conviction of God's existence (or some form of higher power as defined by the person); and
2) the perception of a highly internalized relationship between God and the person (i.e., God dwells within and a corresponding feeling of closeness to God) (p. 204).

The INSPRIT was created to overcome the limitations of existing measures of spiritual experience in uncovering a link between spiritual experience and health.

The INSPRIT is a paper and pencil measure that consists of seven items which are used to operationalize the two characteristics of the core spiritual experience. Items
one through six ask respondents multiple choice questions regarding the occurrence and nature of spiritual experiences and the impact of these experiences on beliefs and religious motivation. For item seven, respondents are provided a four-point rating scale to rate twelve statements describing various types or aspects of spiritual experience. Kass et al (1991) assert that items 1, 2, 4 and 6 identify behaviors and attitudes which would be present in a person who felt close to God and who held the perception that God dwells within. Items 3, 5 and 7 are understood as identifying experiences which had led to a conviction of God’s existence. Items one through seven of the INSPIRIT are scored by numerically coding item responses from 1 to 4, summing them and then dividing by the total number of questions. For item 7, only the highest scoring statement of the twelve statements is used for calculating the total INSPIRIT score. The greater the INSPIRIT mean score, the more likely it is that the respondent has had, and been affected by, a core spiritual experience.

Kass et al, (1991) performed several analyses on the INSPIRIT to examine its psychometric properties and found that the measure seems to have good reliability as suggested by an alpha coefficient of .90, and satisfactory validity as suggested by the following: a) a principal components analysis resulted in the extraction of one factor on which all seven INSPIRIT items loaded heavily; b) the INSPIRIT correlated significantly with the Intrinsic scale ($r = .69, p<.001$), but not the Extrinsic scale, of the Religious Orientation Inventory (Allport & Ross, 1967); c) multiple regression analyses revealed that the INSPIRIT is positively and significantly related to increased life purpose and satisfaction as measured by the Inventory of Positive Psychological Attitudes to Life (Kass, Friedman, Leserman, Caudill, Zuttermeister & Benson, 1991), and inversely related to average symptom frequency as assessed by the Medical Symptom Checklist (Leserman, 1983); and d) the INSPIRIT discriminated between outpatients with longer versus shorter histories of using meditation to elicit a relaxation response.

There are three strengths of the INSPIRIT which support its use in transpersonal research. First, the notion of core spiritual experience which the measure has been designed to assess was developed based on both the clinical and research experience of the test constructors. Most other measures of spiritual experience operationalize definitions of the construct which are grounded almost exclusively on theory and not on direct observation. Second, the INSPIRIT is a parsimonious measure of spiritual experience. Since it consists of only seven items, the measure can be administered quickly and easily. Third, as the above research indicates, the INSPIRIT demonstrates a significant empirical relationship between spiritual experience and both psychological and physical health. Consequently, the INSPIRIT may serve as an excellent measure for use in research focusing on transpersonal experience and its impact on functioning.

Despite these strengths, the INSPIRIT can be criticized on at least two accounts. First, though it attempts to use them in non-denominational ways, it nonetheless relies heavily on monotheistic terms, especially “God.” Resultingly, as was discussed earlier in this paper, the INSPIRIT may be more sensitive to individuals who adhere to monotheistic religious systems than to those who practice nontheistic or polytheistic faiths. Second, the current scoring procedure for the INSPIRIT results in the loss of a fair amount of data from item seven. Some effort should be made to develop a...
more effective procedure for using responses to item seven (e.g., instead of using only
the highest scoring rating for calculation of the total INSPIRIT score, the mean rating
of the twelve parts of item seven could be used).

Mystical Experiences Scale (M-Scale: Hood, 1975)

Hood (1975) states that the M-Scale was created in order to provide an empirical
means of investigating phenomena, namely religious and spiritual experience, which
up to that time had very little empirical work done on them. The M-Scale can be
understood most simply to be an operationalization of the eight dimensions of
mystical experience delineated by Stace (1960). These dimensions are labelled and
defined by Hood (1975) as follows:

1) Ego Quality: "... the experience of a loss of sense of self while consciousness is
nevertheless maintained. The loss of self is commonly experienced as an absorption
into something greater than the mere empirical ego" (Hood, 1975, p. 31);
2) UnitYing Quality: "... the experience of the multiplicity of objects of perception
as nevertheless united. Everything is in fact perceived as one" (p. 31);
3) Inner Subjective Quality: "... the perception of an inner subjectivity to all things,
even those usually experienced in purely material forms" (p. 32);
4) Temporal/Spatial Quality: "refers to the temporal and spatial parameters of the
experience. Essentially both time and space are modified with the extreme being one
of an experience that is both 'timeless' and 'spaceless'" (p. 32);
5) Noetic Quality: "refers to the experience as a source of valid knowledge. Emphasis
is on a nonrational, intuitive, insightful experience that is nevertheless recognized
as not merely subjective" (p. 32);
6) Ineffability: "refers to the impossibility of expressing the experience in conven­
tional language. The experience simply cannot be put into words due to the nature of
the experience itself and to the linguistic capacity of the subject (sic)" (p. 32);
7) Positive Affect: "refers to the positive affective quality of the experience. Typi­
cally the experience is of joy or blissful happiness" (p. 32); and
8) Religious Quality: "refers to the intrinsic sacredness of the experience. This
includes feelings of mystery, awe, and reverence that may nevertheless be expressed
independently of traditional religious language" (p. 32).

Hood (1975) indicates that Stace's (1960) criterion of paradoxicality was not used in
the M-Scale because Hood did not consider it an essential aspect of mystical
experience and because it did not "effectively discriminate" (p. 31) in his preliminary
work.

The M-Scale is a paper and pencil test which consists of 32 items. Though Hood
(1975) began with an item pool of 108 items which operationalized Stace's (1960)
categories, he chose to retain only those items which "proved to be the most clearly
understood while retaining face validity in terms of Stace's conceptualizations" (p.
30). Moreover, Hood (1975) asserts that the 32 items of the final M-Scale dem­
scribed the most satisfactory empirical validity as reflected in "discrimination indexes
calculated on the basis of the ratio between mean response per item by the top quartile
and the lower quartile of respondents to initial forms of" the M-Scale (p. 30-31).
Each of the dimensions of Stace (1960) are represented by four items (two positively expressed and two negatively expressed). Based on a factor analysis Hood (1975) also delineates two subscales; a general mysticism factor which includes twenty items (which completely embody the dimensions Unifying Quality, Temporal/Spatial Quality, Inner Subjective Quality and Ineffability; it also includes three items from Ego Quality and one item from Positive Quality) and a religious interpretation factor made up of the remaining twelve items. Respondents are provided with a five-point Likert scale, ranging from -2; "this description is definitely not true of my own experience or experiences" to +2; "this description is definitely true of my experience or experiences", to rate the extent to which the item accurately describes the person's experience. Respondents are also provided with a "I cannot decide" option, which is recorded as a "?" on the questionnaire. However, the M-Scale instructions encourage respondents to provide answers to all of the items. Item responses are numerically coded as -2, -1, +1 and +2, respectively and are recorded by the respondent on the questionnaire as such. The scoring of the M-Scale consists of reversing the sign of the item response for negatively phrased items, adding three to all item score responses (a response of ? is assigned a value of three) and then summing them to obtain the dimension scores and the total M-Scale score. Total scores can range from 32, meaning the least mystical, to 160 which is the most mystical. Scores of the two M-Scale factors can also be obtained by summing the converted item responses as per the procedure above for the items belonging to each factor.

Evidence of adequate, but not exceptional, reliability of the M-Scale has been provided by Hood (1975) who intercorrelated the individual items, the eight dimensions, and the two factors, respectively, to the total M-Scale score. Correlations for the items ranged from .29 to .55. Correlations for the eight dimensions ranged from .39 to .64. Correlations for the factors are .86 for the general mysticism factor and .66 for the religious interpretation factor. Hood interpreted these correlations as indicating that the M-Scale has satisfactory internal consistency. In addition, Hood intercorrelated the positive (i.e., summed the positively expressed items) and negative (i.e., summed the negatively expressed items) expressions of all eight conceptual categories and found numerous significant relations. He interpreted this latter finding as indicating "that the form of expression does not alter the meaningfulness of the measurement of these categories and hence the mixed nature of this scale is of significance in avoiding problems of response set when correlating this scale with other measures" (Hood, 1975, p. 33).

The validity of the M-Scale has been relatively well examined and satisfactory support for the measure has been provided. Hood (1975) performed a principal components factor analysis (using a varimax rotation) and found two mtereorrelated factors (r = .47, p<.01), which support the construct validity of the M-Scale as a measure of Stace's concepts. Additional evidence in support for this factor structure is provided by Caird (1988) who replicated Hood's (1975) factor structure when employing a two-factor solution in a principal axis factor analysis. Interestingly, when a three-factor solution was utilized, Caird found that the religious interpretation category split into two factors indicative of two types of interpretation, noetic and religious. For both solutions, Caird found that the factors were highly intercorrelated. Alternatively, Campbell (1983) performed a principal components analysis on M-Scale item scores which resulted in the extraction of eight factors. She goes on to state
that "although these results are not necessarily incompatible with those of Hood, the present results at least appear to suggest that the Mysticism scale is a good deal more complex than Hood's previous work implies" (Campbell, p. 77).

The M-Scale has also demonstrated adequate convergent validity as reflected in the pattern of correlations between the two M-Scale factor scores, the total M-Scale score and other measures of theoretically related constructs found in research. For example, Hood (1975) found significant correlations between the M-Scale total and Hoge's (1972) Intrinsic Religious Motivation scale (r = .81, .68 and .58, p<.01 for M-Scale total, factor one, and factor two, respectively), Hood's (1970) Religious Experience Episodes Measure (r= .47 and p<.01 for M-Scale total and factor two; r= .34, p<.05, for factor one), and Taft’s (1970) Ego Permissiveness Scale (r= -.75, -.75 and -.43, p<.01 for total, factor one and factor two).

The M-Scale has been used fairly extensively in research. Though most of this work was not done with the intent to examine the psychometric properties of the measure, it nonetheless provides further insight into the validity of the instrument. In light of this, the authors of this paper surmised that a brief overview of the findings of the literature we obtained would be in order. These findings consist of the following:

1) Relationship of the M-Scale to other measures: a) Hood (1975) correlated the M-Scale and its two factors to the MMPI clinical and validity scales and found significant correlations between the M-Scale total, factor one and factor two scores and the MMPI Lie (L), Hypochondriasis (Hs) and Hysteria (Hy) scales. He interpreted the relations between the M-Scale and the latter two MMPI scales as being consistent with the "concern with bodily processes and intense experiential states" (p. 39) typically associated with mystical consciousness; b) Fite (1981) also correlated M-Scale scores to the MMPI but obtained a very different pattern of correlations. Non-significant correlations were found with the MMPI L, Hs and Hy scales; however, he observed numerous significant correlations between the M-Scale total and factor scores and MMPI Correction (K). Depression (D), Psychopathic Deviate (Pd), Paranoia (Pa), Schizophrenia (Sc), Hypomania (Ma), Social Introversion (Si) and several specialized MMPI scales including the Subtle-Obvious Clinical scales, Phobias (Pho), Ego Control (Ee), Acting-out Ratio (AOR) and Internalization Ratio (IR). Moreover, Fite (1981) correlated the M-Scale to the Millon Multiaxial Clinical Inventory (MCMI; Millon, 1977) and found significant negative correlations between the M-Scale total and factor scores and the MCMI Asocial scale. Conversely, significant positive relations were found between the M-Scale and MCMI Gregariousness. The M-Scale religious interpretation factor also correlated significantly with the MCMI Avoidant and Narcissistic scales. Fite concluded that his evidence was inconclusive in providing support for the hypothesis "that persons reporting more mystical experience will also demonstrate greater capacity for 'regression in service of the ego' than persons reporting less mystical experience" (p. 123); c) Hood, Hall, Watson and Biderman (1979) found many meaningful relations between the M-Scale and the fifteen personality dimensions of the Jackson Personality Inventory (JPI; Jackson, 1976). They also observed a number of sex differences in the pattern of significant correlations obtained. Nevertheless, based on their findings and ignoring the obtained sex differences, Hood et al (1979) assert that the person reporting mystical experience as indicated on M-Scale factor one,
may be described as one with a breadth of interests, creative and innovative, tolerant of others, social adept, and unwilling to accept simple solutions to problems. This person is likely to be critical of tradition. However, a person reporting a religiously interpreted mystical experience (as indicated on factor two) is likely to be traditionally oriented and concerned with the welfare of others (p. 806).

As Hood et al. (1979) indicated, these findings reveal stable and healthy personality correlates to reported mystical experience; d) Campbell (1983) found significant correlations between the M-Scale and the Thinking-Feeling scale of the Myers-Briggs Type Indicator (MBTI). The M-Scale general mysticism factor also correlated with MBTI Sensation-Intuition whereas the religious interpretation factor produced a significant negative relation with MBTI Extraversion-Introversion. In addition, using stepwise multiple regression, Campbell found that the MBTI scales of Feeling, Intuition and Sensation best predicted factor one scores whereas factor two scores were best accounted for by MBTI Feeling, Judging and Perception as well as age. The total M-Scale score was best predicted by MBTI Feeling, Intuition and Judging and subject age. Finally, using discriminant function analysis, Campbell observed that both the M-Scale and the MBTI could discriminate between group of people reporting mystical experience from a group who did not; e) Noble (1984) obtained significant relationships between the M-Scale total and factor scores and the Peak Experiences Scale (PES; Mathes, Zevon, Roter & Joerger, 1982; r = .66, .63, .58, p < .001 for M-Scale total, factor one and factor two, respectively) and with numerous scales of the Perceived Self Questionnaire (Heath, 1968), a measure of psychological health and maturity; these findings were consistent with Noble's expectations; f) Hood (1977a) found significant relations between the M-Scale and Self-actualization as measured by the Personal Orientation Inventory (Shostrom, 1964), especially the general mysticism factor. Hood observed that individuals high in self-actualization appeared more likely to have mystical experiences caused through the use of drugs or sexual activity whereas mystical experiences seemed to be precipitated by religious or nature settings in persons low in self-actualization; g) Hood (1978) reported a notable correlation between the M-Scale and the Adjective Check List suggesting there is a relationship between reports of mystical experience and a healthy orientation to self.

2) Experimental or Quasi-experimental Research: a) Hood, Morris and Watson (1990) used a modified M-Scale to assess the experience of 73 university students classified as either intrinsically religiously motivated, extrinsically motivated or indiscriminantly pro-religious who were subjected to an isolation tank experience under either religious or non-religious set conditions. Tiley found that the three religious types did not differ on factor one as a function of set conditions. However, indiscriminantly pro-religious subjects had higher factor two scores under the religious set conditions, whereas factor two scores were unaffected by set conditions for intrinsics and extrinsics. Intrinsic subjects had higher factor two scores while extrinsic participants had lower factor two scores regardless of set conditions. Hood et al. (1990) also found that subjects classified as intrinsically motivated reported their isolation tank experiences in religious terms whether prompted to do so or not whereas indiscriminately pro-religious subjects were more likely to do so when prompted and extrinsics did not regardless of prompting; b) Propst (1979) found that increased antisocial behavior was exhibited by subjects who had external locus of
control and a low score, c) Hood (1977b) observed that individuals engaged in a high stress experience obtained significantly greater M-Scale scores than persons involved in a low stress experience, suggesting that an anticipated stressful event may serve as a trigger for mystical experience. (The reader is referred to Lukoff and Lu [1988] for a more detailed discussion of Hood, 1977a, 1977b. They also present a study of marginal quality by Finney & Maloney [1985] which utilizes the M-Scale.)

The M-Scale can be viewed as a relatively well designed measure of mystical experience which appears to have found much success to date. However, there are some inconsistencies and apparent oversights in the empirical literature which bring the validity and reliability of the instrument into question. First, there is no knowledge about the stability of M-Scale scores. Even though the M-Scale has been in existence for about twenty years, we were unable to locate any studies which examine the test-retest reliability of the instrument. Given that there is a dynamic relationship between the reliability and validity of any standardized test, it would seem prudent to obtain more knowledge about the reliability of the M-Scale than is currently available. Second, even though there are indications that sex differences may affect M-Scale scores (e.g., Hood, Hall, Watson & Biderman, 1979), there has not been any research that we could find which explicitly and systematically addresses this possible shortcoming.

Third, the factor analytic work on the M-Scale does not allow for complete confidence in the two-factor model that Hood (1915) constructed. Additional research confirming the robustness of the general mysticism and religious interpretation factors may be highly valuable in establishing the factorial complexity of the instrument. Lastly, there are indications that respondents, especially older persons, have difficulties differentially responding to the M-Scale items (Hood, 1975). Thus, there is some question as to the validity of M-Scale scores obtained from some populations on the basis of age. Nevertheless, we are in support of Rood (1975) who contends that the M-Scale "is a potentially useful instrument for persons interested in the investigation of mystical experiences, especially within a religious context" (p, 39).

Peak Scale (PES: Mathes, Zevon, Rater & Joerger, 1982)

The PES is a measure of the tendency of a person to have peak experiences as conceptualized by Maslow (1970). Test construction began with the development of 143 true-false items directly derived from Maslow's detailed description of peak experiences. Based on item to scale-total correlations calculated using data from two samples consisting of 230 subjects, Mathes et al (1982) dropped 73 items, leaving a total of 70 items. Mathes et al noted that the remaining items were all scored in a positive direction (i.e., in the direction of a true response). In order to prevent the confounding of scale scores due to acquiescence, the PES creators reworded half of the items in the negative. To ensure that the rewording of items did not affect internal consistency, Mathes et al administered the revised items to 63 males and 104 females and correlated the item scores to the score total. They found that all but seven of the items did not obtain significance for men and five did not obtain significance for
women. However, based on the fact that interitem consistency was found to be satisfactory, these items were retained in the final version of the PES. The PES is scored simply by summing the item responses which endorse aspects of peak experiences.

In terms of its psychometric properties, the PES has demonstrated good reliability as found in Kuder-Richardson reliability coefficients of .94 for men and .92 for women (Mathes et al., 1982) and adequate validity as suggested by the following: significant correlations between PES scores and the number of peak experiences reported by subjects \( r = .24, p < .05 \) for males; \( r = .24, p < .05 \) for females); numerous significant correlations between PES scores and subject ratings of three passages describing a mystical experience on such criteria as the interestingness of passages, meaningfulness of passages, feelings of being emotionally moved by the passages, enjoyment of reading, the ability of readers to "get into" the passages and arousal of "mystical feelings" in the subjects; and theoretically consistent correlations between the PES and measures of related constructs including the Absorption scale (Tellegen & Atkinson, 1974; \( r = .50, p < .005 \), for men; \( r = .54, p < .005 \), for women), a measure of Being-value achievement devised by Mathes et al. (1982) \( (r = .37, p < .005) \), for men; \( r = .23, p < .05 \), for women), and numerous scales of the Personal Orientation Inventory (Shostrom, 1964), a measure of self-actualization (for males: Self-regard \( r = .24, p < .05 \), Nature of Man, Constructive: \( r = .29, p < .025 \); for females: Inner-directedness: \( r = .28, p < .025 \); Self-actualizing value: \( r = .31, p < .025 \); Self-acceptance: \( r = .27, p < .025 \) (Mathes et al., 1982). Additional evidence in support of the validity of the PES has been provided by Noble (1984) who found that the measure significantly correlated to Hood's (1975) Mystical Experiences Scale (total score- \( r = .66, p < .01 \); factor one- \( r = .63, p < .01 \); factor two- \( r = .58, p < .01 \)) and with numerous scales of the Perceived Self Questionnaire (PSQ; Heath, 1968), a measure of psychological health and maturity (PSQ total- \( r = .18, p < .05 \); Intellectual Skills- \( r = .19, p < .05 \); Values- \( r = .14, p < .05 \); Symbolization- \( r = .22, p < .01 \); Allocentrism- \( r = .13, p < .05 \)). Lastly, Morneau, MacDonald, Holland and Holland (in press) found significant relations between the PES and a measure of complex partial epileptic signs (Persinger & Makarec, 1987, 1993; see below; \( r = .35, p < .0001 \)) and several scales of the revised Paranormal Beliefs Scale (PBS-R; Tobacyk 1991; see below) including the total PBS-R score \( (r = .36, p < .0001) \) and subscales assessing Traditional Religious Beliefs (\( r = .30, p < .01 \)), Psi Beliefs (\( r = .27, p < .01 \)), Spiritualism (\( r = .32, p < .001 \)), Precognition (\( r = .30, p < .01 \)) and Extraordinary Life Forms (\( r = .20, p < .05 \))

Based on their analyses of the PES, Mathes et al. (1982) concluded the following:

Although individuals who report having peak experiences are also likely to have experiences involving intense happiness, they are even more prone to report having cognitive experiences of a transcendent and mystical nature. This suggests that although the peak experience involves positive affect, it is primarily a cognitive (mystical) event. Individuals who report having peak experiences are more likely to report living in terms of Being-values, such as truth, beauty, and justice than individuals who do not report having peak experiences. Finally, self-actualizing individuals are more likely to report having peak experiences than less self-actualizing individuals, though the relationship is not a very strong one. In general, this picture is consistent with the theorizing of Maslow (p, 107).
The greatest strength of the PES lies in its grounding in Maslow’s theory. In fact, given that many items of the PES are borrowed directly from Maslow's (1970) own writing, and the findings reported above, it is very likely that the PES is a measure which is an acceptable operationalization of what Maslow originally meant by peak experiences. Thus, the PES appears to hold promise as a measure for research examining peak experiences and their relation to psychological health. However, no investigations have been undertaken which examine the factorial validity of the PES. Until such an analysis is completed, investigators using this scale must be sensitive to the possibility that the scale may be a multidimensional (i.e., multi-factorial) operationalization of the construct and thus not a homogeneous measure of peak experiences.

IntrinsicReligiousMotivationScale (IRMS;Rage, 1972)

Hoge (1972) states that the development of the IRMS was prompted by the existence of conceptual diffuseness in existing notions of intrinsic and extrinsic religion and by the questionable validity of measures of the same. The IRMS operationalizes and assesses the aspect of intrinsic religious motivation identified and defined by Runt and King (1971) as ultimate versus instrumental religious motivation. In order to remain consistent with Allport and Ross (1967), Hoge defined this aspect of religious motivation as a bidirectional dimension with intrinsic motivation at one end and extrinsic motivation at the other. Hoge contends that the IRMS is not a measure of behavior, perception or cognitive style but of religious motivation from an American Christian perspective. He adds that test items asking about specific religious behavior were excluded from the IRMS for two reasons: a) such behavior does not serve as a reliable indicator of intrinsic religious motivation, and b) it was desirable to keep religious behavior separate conceptually and operationally from the notion of intrinsic religious motivation.

The IRMS is a paper and pencil test made up of ten items which consist of statements about the people’s orientation to religion in their lives. Respondents are provided a four-point Likert scale ranging from strongly agree (numerically coded as one for scoring), and agree, (coded as two), to disagree (coded as four) and strongly disagree (coded as five) to rate the extent to which they agree with the test items. Item responses are summed and the mean calculated to obtain the IRMS score. The lower the IRMS score, the higher the respondent’s intrinsic religious motivation.

The IRMS has demonstrated good reliability as indicated by a Kuder-Richardson reliability coefficient (using formula 20) of .90 (Hoge, 1972). In terms of validity, the IRMS appears to have adequate factorial validity (Hoge, 1972) as well as good convergent and discriminant validity; the IRMS has produced strong correlations with other measures of intrinsic religious orientation including Feagin’s (1964) \( r = .85 \) for total scale; \( r = .87 \) for intrinsic scale) and Allport and Ross’ (1967) \( r = .87 \) for total scale; \( r = .86 \) for intrinsic scale; Hoge, 1972) and with the Mystical Experiences Scale (Hood, 1975; \( r = .81 \), p<.01). Moreover, evidence of satisfactory criterion validity has been found by Hoge (1972) who obtained a correlation of .585 between IRMS scores and minister’s ratings of 51 subjects as either intrinsically or extrinsically motivated. Finally, Powell and Thorson (1991) observed a strong relationship.
between the IRMS, scores on a death anxiety scale and constructions of death among 145 people.

Given the findings reported above, it appears that the IRMS could serve as a satisfactory brief measure of intrinsic religious motivation. In fact, given the magnitude of the correlations between the IRMS and the scales of Allport and Ross (1967) and Feagin (1964), it appears that the IRMS is assessing constructs virtually identical to these other measures. However, as is the case with most measures of this concept, the IRMS is limited by its operationalization of intrinsic religious motivation from an exclusively American Christian perspective. Nonetheless, the strong correlation between the IRMS and a measure of mystical experience which was obtained by Hood (1975) suggests that the JRMS could be used as a Christian-oriented measure of the extent to which peoples' religious orientation is grounded in the occurrence of spiritual experiences.

**Self Expansiveness Level Form (SELF; Friedman, 1983)**

The development of the SELF was prompted by Friedman's (1983) perception that transpersonal psychology was lacking adequate measures of relevant concepts which would allow for the development of a cumulative body of empirical knowledge based upon a shared technique. The general concept that the SELF is designed to assess is self-expansiveness, a construct defined by Friedman (1983, p. 38) as "the amount of True Self which is contained within the boundary demarcating self from not-self through the process of self-conception." More specifically, self-expansiveness has been operationalized as three distinct levels based upon a spatial-temporal cartography of self-concept (Sampson, 1978; Shostrom, 1968). The three levels are the personal, middle and transpersonal. Each level of self-concept corresponds to a subscale on the SELF. The Personal Subscale, made up of five items, was included to assess the degree of identification that a person has with the "here-and-now" level of the self. Friedman (1983) states that the personal subscale can best be understood as measuring Western conceptions of positive mental health. The Transpersonal Subscale, also consisting of five items, was designed to assess a person's "degree of identification with aspects of reality beyond that which is ordinarily conceived as being part of the individual" (Friedman, 1983, p. 40). Further stated, the transpersonal subscale assesses the degree of "extension of the self-concept beyond the here-and-now such that there [has been or] is a dissolution of the individual's perception of self as an isolated biosystem existing only in the present time" (p. 39). The Middle Subscale, made up of eight items, is said to serve as a bridge between the personal and transpersonal levels of self-expansiveness. Friedman (1983) states that research into the meaning of the middle subscale has been minimal and no knowledge of what it measures has been obtained. The middle subscale was included to increase the overall face validity of the SELF.

The SELF is a paper and pencil test that consists of 18 randomly ordered self descriptive statements which are rated by an examinee on a five-point Likert scale, ranging from A: "very willing to use to describe my sense of self or identity" to E: "very unwilling to use to describe my sense of self or identity," for the degree of willingness of the examinee to identify with the test items. SELF scale scores are
obtained by numerically coding and summing the item responses (A=5, B=4, C=3, O=2, E=1). The higher the score on a given subscale, the more True Self is incorporated into a person’s self concept.

The SELF has demonstrated satisfactory reliability; Friedman (1983) found two-week test-retest correlations of .83 and .80 for the personal and transpersonal subscales respectively, while MacDonald, Tsagarakis and Holland (1994) found two week test-retest reliabilities of .57 for both the personal and middle subscales and .69 for the transpersonal scale, and three-month test-retest correlations of .66, .34 and .57 for the personal, middle and transpersonal subscales. In terms of inter-item consistency, Friedman (1983) found Spearman-Brown reliability coefficients of .81 and .78 for the personal subscale and .66 and .68 for the transpersonal subscale. MacDonald, Tsagarakis and Holland (1994) found coefficient alpha values of .72 and .75 for the personal scale, .58 and .67 for the middle subscale, and .79 and .65 for the transpersonal subscale.

Examination of the validity of the SELF has been fairly comprehensive and satisfactory support has been provided. To briefly elaborate, the results of four principal components analyses have provided support for the factorial validity of the personal and transpersonal subscales (Friedman, 1983; MacDonald et al., 1994). Moreover, the SELF personal and transpersonal subscales have been shown to have adequate convergent and discriminant validity as demonstrated in correlational findings consistent with expectation between the SELF subscales and measures of theoretically related and non-related constructs (e.g., the personal subscale has been found to significantly correlate with the Time Competence Scale and the Inner Supports Scale of the Personal Orientation Inventory, the Total Positive Score of the Tennessee Self Concept Scale [TSCS; Fitts, 1965], the Self-Description Inventory, the Ego Grasping Orientation and numerous scales of the Myers-Briggs Type Indicator [MBTI] and the NEO Personality Inventory [NEO-PI] whereas the transpersonal subscale has been shown to significantly correlate to the M-Scale [r=.32, p<.005] but not the MBTI and only weakly with the Openness to Experience domain of the NEO-PI; both subscales have not been found to correlate with intelligence, social desirability, a number of measures of response style from the TSCS and each other; Friedman, 1983; MacDonald et al., 1994). Also, evidence for the criterion validity of personal and transpersonal subscales was obtained by Friedman (1983) who was able to use these subscales to differentiate between groups of individuals known to vary in the extent to which they identified with the transpersonal and "here-and-now” levels of self (e.g., students, yoga practitioners, members of the Association for Transpersonal Psychology).

Outside of the Temperament and Character Inventory, the SELF is the only measure available which is designed to assess aspects of transpersonal identity. In light of its uniqueness as well as the favorable findings supporting the validity and reliability of the personal and transpersonal subscales, it appears as though the SELF holds much potential for use in research exploring the relation of conventional and transpersonal aspects of identity to spiritual practice/experience. Moreover, as was suggested by MacDonald et al. (1994), the lack of notable relations between the transpersonal subscale and the MBTI and NEO-PI suggest that this subscale may be useful in investigating the possible existence of a "sixth" factor of personality/identity (in
addition to the commonly accepted five factors in conventional personality psychology) which could incorporate the spiritual into mainstream conceptions of personality.

However, despite its potential usefulness, the SELF is currently limited in at least three ways. First, Friedman (1983) did not focus any of his attention on the theoretical and empirical development of the middle subscale. As a result, outside of Friedman's claim that the subscale is a bridge between the personal and transpersonal levels of self-expansiveness, little is known about what the subscale is assessing. Fortunately, some work has been done to further explore this aspect of the SELF. In their detailed examination of the instrument, MacDonald et al. (1994) state that "the middle level can be understood as encompassing aspects of self-concept which have some aspects of spatial-temporal expansiveness but are not expanded to the point which results in the dissolution of separate egoic identity" (p. 179). This can include identification with behaviors, memories, body parts or movements and social behavior/relations. MacDonald et al. also examined the psychometric properties of the middle subscale and found that it has adequate reliability (coefficients reported above) and some degree of validity as suggested by significant correlations between the middle subscale and both the personal and transpersonal subscales (r= .34 and .41, p<.01, respectively), and by the replicated finding of a multidimensional factor structure. In addition, MacDonald et al. (1994) obtained a number of significant correlations between the middle subscale and the scales on the MBTI and NEO-PI suggesting that it may be assessing a construct which is relatively well represented in existing personality tests.

Second, there are no specific interpretive criteria available to indicate the meaning of the magnitude of a given subscale score or to indicate the meaning of subscale scores in comparison with each other (e.g., what does a high personal subscale score and a moderate transpersonal subscale score tell us about the test taker?). Even though SELF scores could be simply understood as reflecting greater self-expansiveness with increased magnitude in the subscale scores, a more definitive interpretive system might be developed in order to make the measure more useful, both for individual assessment and group use in research.

Third, there are indications that SELF scores, especially the personal and middle subscales, may be affected by gender (MacDonald et al., 1994). This finding needs to be kept in mind when using the SELF in research with both men and women and in developing an interpretive system (e.g., separate systems may be required for males and females).

**Transpersonal Orientation to Learning (TOTL; Shapiro & Fitzgerald, 1989)**

The TOTL is a measure of the extent to which a person's attitudes about learning are transpersonal in nature. Shapiro and Fitzgerald (1989) state that "according to the Transpersonal Orientation, schools and other settings for learning are environments for the development of spiritual potential. ... Intuitive and receptive modes of consciousness are considered equal in importance to cognitive, rational, logical and active modes" (p. 374-376). They add that the TOTL was constructed because there
was no prior empirical work in existence which applied the transpersonal perspective to education.

Development of the TOTL began with the construction of 222 test items based on the content analysis of the writings of twenty-five well-known transpersonal humanistic psychologists. This item pool was subjected to independent screenings by a number of judges who rated each item for clarity and relevance. Based on inter-judge agreement and on pilot study data, the item pool was reduced to 67 items. Using a five-point Likert scale ranging from 1-strongly disagree to 5-strongly agree, this 67-item version of the TOTL was administered to 166 graduate students. Using the results of an item analysis of this data, 19 items were eliminated. Eight more items were dropped on the basis of the findings of a factor analysis. These procedures reduced the overall TOTL to 40 items. Based on a second factor analysis which used an equamax rotation (a procedure which divides the variance accounted for by each factor equally across the factors), the TOTL is broken down into four subscales each containing 10 items. The subscales are labelled 1) Fantasy Techniques Applied in Schools, 2) Mysticism Preferred to Science as an Epistemology, 3) Mystical/Occult/Paranormal Techniques Applied to Schools, and 4) Transcendent Consciousness. TOTL total and subscale scores are obtained by simply summing the item responses. The greater the TOTL score, the greater the person's transpersonal orientation to learning.

Evidence in support of the reliability of the TOTL has been provided. For the entire TOTL, Shapiro and Fitzgerald (1989) found a split-half reliability of .98 and a Cronbach's alpha of .96. For the subscales, alphas values were found to range from .82 to .93 with a mean alpha of .88.

In terms of validity, Shapiro and Fitzgerald (1989) assert that the content validity of the TOTL was established during test construction by basing item development directly on the work of transpersonal thinkers and by having judges rate the items. Criterion validity of TOTL has been supported by findings indicating that the TOTL could differentiate among known groups. In particular, it was found that mean TOTL scores were significantly higher for students in confluent (humanistic) education, followed by students in counseling psychology, who, in turn, scored higher than two groups made up of students from single and multiple subject credential programs (Shapiro & Fitzgerald, 1989). Moreover, the TOTL has demonstrated adequate convergent validity; Shapiro and Fitzgerald correlated the TOTL to a number of measures which assess similar constructs, and obtained significant correlations with the Orientation to Learning (OTL; Shapiro, 1985), a measure of humanistic orientation to learning (r = .46, p<.05), the Intuitive-Feeling temperament scale of the Kiersey Temperamental Sorter (Kiersey & Bates, 1978), a short form of the Myers-Briggs Type Indicator (r = .38, p<.05), and the Concrete Experience Scale of the Learning Style Inventory (Kolb, 1976; r = .22, p<.05). Lastly, evidence for factorial validity has been provided through two principal components analyses. The first analysis, which used a varimax rotation, resulted in all TOTL items loading on a single factor, whereas the second analysis, which used an equamax component rotation, uncovered the four factor structure which partitions the TOTL items into the four subscales mentioned above (Shapiro & Fitzgerald, 1989).
The TOTL is unique in that it is the only transpersonal measure which has direct relevance to educational research: "the contribution of an objective scale such as the TOTL lies in its availability as a reliable and valid measure of a transpersonal orientation to education" (Shapiro & Fitzgerald, 1989, p. 383). In terms of the application of the TOTL, Shapiro and Fitzgerald (1989) state that,

this scale could provide a useful way of assessing parent, teacher and student attitudes and changes in these attitudes influenced by certain educational regimes. In addition, the TOTL scales further open up a line of scientific investigation of the correlates of such attitudes and their effect on learning and development (p. 383).

However, anyone who uses the TOTL at this time should be sensitive to the fact that all of the items are worded in such a manner that subjects strongly endorsing an item indicate their responses in the same positive direction. Thus, the researcher should be sensitive to the impact of response bias on test scores. In addition, the factor structure of the TOTL may be unstable. Shapiro and Fitzgerald caution against the use of subscale scores since they are likely to be unstable due to the use of the equamax factor rotation. Resultingly, researchers should exercise discretion when using the subscales until further research can ascertain whether the construct is unidimensional or multidimensional, since the results of the factor analyses indicate that both may be correct. At present the TOTL appears to be best used as a measure of a general orientation towards the transpersonal approach to education.

**Ego Grasping Orientation (EGO; Knoblauch & Falconer, 1986)**

The EGO is a measure of Taoist orientation that assesses ego grasping, a construct defined as "a dualistic stance that is marked by the person’s attempts to make things more positive while striving to eliminate the negative aspects of human experience" (Knoblauch, 1985, p. 55). The notion of ego grasping was developed by Knoblauch and Falconer based on the psychotherapeutic adaptation of the Taoist concepts of yin-yang, wu-wei and teo. Test items were constructed by extracting statements made by clients in audio-taped therapy sessions which seemed to affirm or support the concept of ego grasping. Knoblauch (1985) states that an individual high in ego grasping would, according to the Taoist perspective, be highly motivated by egoic idealism and ego centeredness.

The EGO takes the form of a twenty-item true/false questionnaire which is scored in the direction of ego-grasping. The greater the EGO score, the greater the ego grasping by the individual.

Research has shown that the EGO has good inter-item consistency and test-retest reliability, obtaining coefficient alphas of .81 and .82 (Knoblauch & Falconer, 1986), a Kuder-Richardson reliability of .79 and a three-month test-retest correlation of .72 (MacDonald et al., 1994). Moreover, the EGO has demonstrated satisfactory validity (Knoblauch & Falconer, 1986; MacDonald et al., 1994) and, based on the pattern of correlations obtained by Knoblauch and Falconer (1986) between the EGO and ten measures of psychopathology, it appears that elevated EGO scores are associated with anxiety, poor self-esteem, depression and impaired socialization skills. EGO
scores have also been associated with high risk variables for problem drinking in adult children of alcoholics (Knoblauch, 1990); marginal functioning in alcoholic college students who were adult children of alcoholics (Knoblauch & Bowers, 1989); and psychological characteristics present in a sample of female alcoholics which differentiated them from their male counterparts (Knoblauch, 1988).

The authors of this article are in agreement with Knoblauch and Falconer (1986) who state that "the strength of the inventory lies in its ability to measure a person's place on [the continuum ranging from observational acceptance or te to fighting against the Tao, or ego grasping], which, in turn, indicates a strong relationship with Western personality dimensions" (p. 80). However, as the test developers have noted, the EGO "is not a measure of personality since, from a Taoist perspective, personality is an alien concept" (Knoblauch & Falconer, 1986; p. 80). Thus, researchers should make efforts to not equate ego-grasping with any personality or psychological variable. Moreover, one must be equally cautious when using the EGO to assess concepts such as degree of spiritual realization, since despite the fact that low scores suggest that a given individual may "be relatively free from anxiety, depression, low self-esteem, and low socialization skills, it does not suggest anything more than an orientation towards observational acceptance or te or it is not a measure of enlightenment" (Knoblauch & Falconer, 1986, p. 80).

In terms of general applications, the EGO could prove useful in psychotherapy and meditation outcome research. In addition, it could be a useful measure for contributing diagnostic information to clinicians and researchers which conventional testing do not provide. Following from this, the EGO could also serve as a tool for selecting clients or subjects for specific therapeutic interventions.

East-West Questionnaire (EWQ; Gilgen & Cho, 1979a)

Cho and Gilgen (1980) state that "the EW [is] designed to reflect the basic monism of [Eastern] thought and the dualism inherent in traditional Western philosophy and religion" (p. 1093). Stated differently, the EWQ has been developed to "... measure traditional Eastern and Western perspectives on reality, "man-in-the-world" (Gilgen & Cho 1979a, p. 835), and belief systems (Gilgen, Cho & Stensrud, 1980). "By Eastern is meant the basic assumptions common to Buddhism, Taoism, Confucianism and Hinduism; and by Western, the Judeo-Christian and Greek underpinnings of European and American thought" (Gilgen & Cho, 1979a, p. 835).

According to Gilgen and Cho (1979a), the Eastern perspective is defined as a non-dualistic view of reality which produces the following beliefs or assumptions: humans are not separate from nature but are one with it; physical, mental and spiritual realities are one; humans should recognize their essential unity with nature, mind and spirit rather than expend energy analyzing, labelling, categorizing, manipulating, or exploiting them; as a result of their oneness with the universe, humans should experience a sense of comfort and belongingness in any place and with any person; science and technology are not an effective means of improving the human condition; "enlightenment" directly concerns achieving a sense of oneness with the universal;
enlightenment is a state where all dichotomies vanish; and, meditation is the principle vehicle for achieving enlightenment.

The Western perspective, conversely, is defined by Gilgen and Cho (1979a) as a dualistic view of reality which generates the following beliefs: humans have traits which set them apart from nature and the spiritual; the human being is divided into a body, a spirit and a mind; there exists a personal God who is above the realm of humans and nature; humans must control and exploit nature to ensure their survival and prosperity; rationality and analytic problem solving are valued and should be emphasized; science and technology have provided beneficial things for humans and will continue to do so in the future; and, competition and activity are seen as valuable and should be reinforced.

The EWQ is a paper and pencil test that consists of 68 items (actually, 34 East-West item pairs) which are rated by respondents on a five-point Likert scale for the degree to which they agree with the content of the test items. The 34 pairs of items are unequally divided among five categories: 1) man and the spiritual, 2) man and nature, 3) man and society, 4) man and himself, and 5) the rationality of man. Gilgen and Cho (1979a) explain that East-West item pairs were constructed in order to "neutralize response set" (p. 837).

In terms of scoring, Gilgen and Cho (1979a) state that "while the questionnaire can be scored in a number of ways, the selected scoring procedure involves computing a percentage Eastern thought score" (p. 839). They state that this score can be derived using the following procedure: a) assign a weight of two to "strongly agree" responses and one to "agree but with some reservations" responses, b) compute scores of agreement for the Eastern and Western statements, c) divide the Eastern agreement score by the agreement score which is the sum all of the items and, d) multiply by 100. Gilgen and Cho (1979a) contend that while their recommended scoring procedure does not utilize all of the test data (e.g., 3, 4, and 5 responses are discarded), it is advantageous in that it provides a score scale which ranges from 0 to 100. Generally, when using the above procedure, score elevations can be interpreted as reflecting the extent to which belief systems of respondents which are more Eastern in nature.

The EWQ has demonstrated satisfactory reliability as reflected in a two-week test-retest correlation of .76 (Gilgen & Cho, 1979a). Evidence has been provided which supports the convergent and discriminant validity of the instrument (Gilgen & Cho, 1979b). For example, as the researchers expected, the EWQ was found to significantly relate to the Consciousness I, II and III scales (Krus & Tellegen, 1975) and the Zen Scale (Krus & Krus, 1978) (Gilgen & Cho, 1980). Moreover, the EWQ appears to have excellent criterion validity as has been shown in its ability to differentiate between groups of subjects known to vary in the "Easternness" in their thinking. The EWQ has demonstrated such differences with Buddhists, transpersonal psychologists, arts and business college students and business people (Gilgen & Cho, 1979a), Korean and American college students and Korean Buddhists and Korean Christians (Cho & Gilgen, 1980), and transpersonal psychologists and middle management business executives (Gilgen, Cho & Stensrud, 1980). It is important to note that some sex differences have been observed on the EWQ (Gilgen & Cho, 1979b).
On the surface, the EWQ can be understood simply as a measure of some gross differences in cultural world view as expressed in Eastern versus Western societies, or, more exactly, the degree of Eastern or Western enculturation that a person has experienced. Following from this, the EWQ can be severely criticized for relying on highly reductionistic and impressionistic definitions of Eastern and Western world views. However, in consideration that it is a measure of belief systems and not transpersonal experience per se and given the existing research supporting the validity of the measure, especially its ability to differentiate between subject populations of different cultures, religions and world views, it appears that the EWQ could be effectively used in research involving heterogeneous subject populations in which a plurality of cultures, religions and world views are represented. Moreover, the EWQ may prove useful in applied research as both a screening tool to aid in the assignment of subjects/therapists to various treatment conditions involving an Eastern orientation (e.g., Eastern-influenced therapies and techniques versus traditional Western-based psychotherapies) and as a measure of treatment outcome for subjects who have undergone an Eastern-based therapy or technique (e.g., to determine if there is an increase in Eastern or Western thought in individuals who experienced Vipassana meditation versus conventional psychotherapies).

**Paranormal Belief Scale (PBS; Tobacyk & Milford, 1983)**

The PBS is a self-report paper and pencil questionnaire which is designed to assess a factor analytically derived multi-dimensional conception of paranormal beliefs. Impetus for the construction of the PBS was derived from Tobacyk & Milford's (1983) perception that existing measures of paranormal beliefs are limited due to their reliance on untested assumptions about the structure of paranormal beliefs (e.g., many measures of paranormal beliefs such as Randall & Desrosiers' [1980] were constructed under the assumption that belief in the paranormal is a unidimensional construct without any empirical support for such an assumption). The test authors surmised that "a more valid procedure in the construction of a paranormal belief-assessment instrument might be first, to assess the structure of paranormal belief in a sample and, second, to base the construction of an assessment instrument on the paranormal belief structure obtained in that sample" (Tobacyk & Milford, 1983, p. 1030).

Based on this strategy, Tobacyk and Milford devised an item pool of 61 items which they either borrowed from existing assessment instruments or constructed themselves. This item pool was assumed to be a comprehensive representation of the content domain encompassed by the construct of paranormal beliefs. Thereafter, these 61 items were administered to a sample of 391 university students who used a five-point Likert scale (ranging from 1-"strongly disagree with this item" to 5-"undecided or don't know" to 5-"strongly agree with this item") to rate the extent to which they agreed with the content of the items. Following this, Tobacyk and Milford (1983) subjected the item scores to a principal axis factor analysis (varimax rotation) which resulted in the extraction of 13 factors. After examining the obtained factors for interpretability and stability, seven were retained and used to form the basis of a multidimensional definition of paranormal beliefs. In addition, items which produced
the highest loadings on these factors were kept and used to operationalize each component of paranormal beliefs. In the end, a 25-item measure of paranormal beliefs which consists of seven subscales was developed. The seven subscales consist of the following: 1) Traditional Religious Belief (i.e., traditional Christian belief), 2) Psi Beliefs (e.g., psychokinesis, mental telepathy), 3) Witchcraft (e.g., black magic, voodoo, spells, witches), 4) Superstition, 5) Spiritualism (e.g., communication with the dead, astral projection, reincarnation), 6) Extraordinary Life Forms (e.g., belief in the existence of controversial life forms such as the Loch Ness monster, Big Foot and the Abominable Snowman) and 7) Precognition (i.e., belief in predicting the future through paranormal means). The first four subscales are made up of four items each whereas the latter three subscales are made up of three items each. Respondents are provided with a five-point Likert scale ranging from 1-strongly disagree to 5-strongly agree, to rate each item for the extent to which they agree that it embodies a belief they have. PBS subscale and total scores are obtained by summing item responses. The higher the score on a subscale or the total PBS, the more strongly the person holds beliefs about the existence of paranormal phenomena.

The PBS and its subscales have been shown to have satisfactory reliability; the total PBS obtained a four-week test-retest reliability of .89 while the seven subscales produced reliabilities ranging from .60 (for the Precognition subscale) to .84 (for Psi Belief). Moreover, evidence of satisfactory validity has been provided. For example, intercorrelations between the PBS subscales revealed that the seven components of paranormal beliefs appear to be largely independent of each other. Also, convergent and discriminant validity has been supported as suggested in the findings of expected correlations between the PBS and its subscales and a measure of locus of control (indicating that persons who have a more external locus of control tend to have greater belief in the paranormal), a measure of death threat (interpreted as indicating that individuals who score higher on Traditional Religious Belief tend to have less fear of death), a measure of self-esteem and adjustment (indicating that most aspects of paranormal beliefs are not related to level of adjustment; as hypothesized, Traditional Religious Beliefs significantly correlated with this measure suggesting that people who score higher on this subscale show better self-esteem), a measure of uncritical inference making (suggesting that Spiritualism is more associated with uncritical inferences whereas Traditional Religious Beliefs are not), a dogmatism scale (indicating that only Witchcraft is associated with a dogmatic orientation), and a measure of irrational beliefs (indicating that Superstition and Spiritualism are associated with irrational beliefs) (Tobacyk & Milford, 1983). Finally, Tobacyk and Milford (1983) found that females scored significantly higher on the PBS subscales of Traditional Religious Beliefs and Precognition while males scored higher on the Extraordinary Life Forms subscale; outside of these relationships, no other notable sex differences were found.

The PBS has met with some measure of success as reflected in the number of published studies using the scale (e.g., Davies, 1988; deSarbenza, Claribel & deVila, 1989; Gagne & McKelvie, 1990; Irwin, 1990; Tobacyk, 1984, 1985a, 1985b; Tobacyk & Milford, 1984, 1988; Tobacyk, Milford, Springer & Tobacyk, 1988; Tobacyk, Miller, Murphy & Mitchell, 1988; Tobacyk & Wilkinson, 1990; Williams, Taylor & Hintze, 1989).
Tobacyk and Milford (1983), based on their findings, state that the PBS may be useful in the study of the implications that paranormal beliefs have for “personality functioning, especially that which concerns locus of control, death threat, self-concept, inference making, dogmatism, and irrational beliefs” (p. W36). The PBS has been included in this review because it seems to be a soundly constructed measure of paranormal beliefs which may prove useful for investigations into the relationship between belief systems and how people organize their experience (e.g., how do people who have spiritual experiences or who have a spiritual orientation to life relate to paranormal beliefs? Do they believe in out-of-body experiences, extra-sensory perception and the like?).

It is noteworthy that a revised version of the PBS has been developed (PBS-R; Tobacyk, 1991). The PBS-R differs from the PBS in that it utilizes a seven-point rating scale, is made up of 26 items, and contains revised items in the Precognition, Witchcraft and Extraordinary Life Forms subscales, Tobacyk (1991) states that “these improvements resulted in greater reliability [four-week test-retest reliability of .92 for total PBS-R] and validity, less restriction of range, and greater cross-cultural validity in Western cultures” (p. 2). (A copy of the PBS-R can be obtained by writing Jerome J. Tobacyk, Box 10048 Behavioral Sciences, Louisiana Tech University, Ruston, LA 71272). To date, we are only aware of two studies which utilize the PBS-R. In the first, Tobacyk (1992) confirmed his hypothesis that “relationships between paranormal beliefs and locus of control are moderated by both self-monitoring and idealism” (p. 2). Second, Morneau, MacDonald, Holland and Holland (in press) found significant relationships between the PES (reported above) and a measure of complex partial epileptic signs. In both of these instances, the findings suggest that the PBS-R may prove to be as effective as the PBS in research.

**Assessment Schedule for Altered States of Consciousness**
(AFASC; van Quekelberghe, Altstotter-Gleich & Hertwick; 1991)

The ASASC is a multiscaledinstrument which was designed to serve as a comprehensive measure of altered states of consciousness (ASCs). The test authors state that the development of the ASASC and its subscales was guided by various definitions and taxonomies of ASCs including Tart’s (1975, 1977), Gowan’s (1978-1979) and Fischer’s (1975). However, they cite Ludwig’s (1966) definition of ASC as being most central to test construction. Ludwig (1966) defines ASCs as

any mental state(s), induced by various physiological, psychological, or pharmacological maneuvers or agents, which can be recognized subjectively by the individual himself (or by an objective observer of the individual) as representing a sufficient deviation in subjective experience or psychological functioning from certain general norms for that individual during alert, waking consciousness (p. 226; taken from van Quekelberghe et al., 1991, p. 377).

Van Quekelberghe et al. (1991) assert that their intent in creating the ASASC “was to construct an instrument for assessing any altered-states experiences a person may have had and is able to recall at the time of questionnaire administration” (p. 378-379).
The ASASC is comprised of 325 items which are unequally divided into 14 subscales. Respondents are provided a five-point rating scale (0-not at all, 1-just a little, 2-to some extent, 3-to a large extent and 4-completely) to rate the extent to which the items apply to themselves and their own experiences and beliefs. Vanquekelbergh et al. assert that "the items were formulated carefully so that respondents would not get the impression that such extraordinary experiences could be viewed as psychopathologic" (p. 379). Moreover, they comment that each subscale has its own instructions and thus can be administered independently of each other.

The fourteen subscales of the test were devised based upon interview data with experts in ASCs, literature reviews, and upon the nature of the items themselves. These subscales consist of the following: 1) Personal data (22 items): this subscale consists of questions which asks respondents to provide general demographic data (e.g., sex, age, education) as well as information pertaining to their experiences with any activities (e.g., psychotherapy, meditation) or substances (e.g., drugs) associated with ASCs; 2) Extraordinary Mental Processes (22 items): "this subscale is used to assess unusual trains of thought, strange ideas, or extraordinary experiences" (p. 380); 3) Parapsychology, own experiences (11 items): assesses the respondent's personal parapsychological experiences (e.g., precognition, telepathy); 4) Parapsychology, own view (9 items): "in this subscale, the subject estimates the probability of the occurrence of typical ESP" (p. 380); 5) Esoterics (16 items): "the relatively broad area of esoteric practices [e.g., ranging from everyday practices such as horoscopes and superstitions to spiritual healing and participating in seances] and 'supersensory perception' are covered in this subscale" (p. 380); 6) Positive Mystic Experiences (40 items): this subscale measures ectatic states of consciousness akin to peak experiences; 7) Negative Mystic Experiences (40 items): this subscale is designed to assess intense negative experiences "such as those that may be encountered on a bad trip. Fear of dying, fear of disintegrating or losing control over oneself or feeling surrounded by 'evil forces' are a selection of the topics covered ... " (vanQukekelbergh et al., 1991, p. 380); 8) Imagination (18 items): assesses imagination and visualization ability; 9) Dreams (44 items): this subscale taps two areas; "... the extent to which the subject is preoccupied with his/her dreams and ... the occurrence of different types of dreams (e.g., lucid dreams, nightmares, dreaming of paradise, etc.)" (vanQukekelbergh et al., 1991, p. 381); 10) Dissociation (23 items): "this subscale assesses information pertaining to the intensity of experiences of the trance or hypnotic type, as well as tendencies toward dissociation. Deep concentration, comparable to inner contemplation, as well as suggestibility, are important aspects of this subscale" (p. 381); 11) Hallucinations (15 items): concerns "hallucinatory images and mental processes resembling megalomaniac ideas and delusions of being influenced by alien forces" (p. 381); 12) Hypersensitiveness (12 items): "this subscale covers two areas synesthetic experiences and abilities, such as perceiving the notes of a tune in colors and perceptual sensations of an extreme nature and heightened body sensitivity" (p. 381); 13) Changed Feeling of Time and Space (23 items): this subscale assesses altered body sensations and perception of time as well as the perception of object transformation; and 14) Change (30 items): this subscale assesses the long-term effects of experiences (positive and negative ones) on personal development.
The ASASC has been shown to have good reliability with the fourteen subscales producing alpha coefficients ranging from .80 to .98 and Guttman split-half coefficients ranging from .81 to .96. The validity of the measure also appears to be satisfactory; vanQuelkeberghe et al. (1991) obtained favorable factor analytic results suggesting that each subscale "seemed to fit to the experiential area for which the items were constructed" (p. 386). Moreover, no age, education or religious denominational effects were found to effect ASASC subscale scores. However, some sex differences were observed; women were found to score higher on three subscales (Parapsychology, own experiences, Parapsychology, own view and Dreams). In addition, individuals actively practicing their religion obtained significantly greater scores on three subscales (Parapsychology, own view, Esoterics and Dissociation).

Additional analyses completed on the ASASC which support its validity include the following; Intercorrelations of subscale scores reveal correlations ranging from .40 to .82; analysis of ASASC subscale scores pertaining to personal experiences through nonmetric multidimensional scaling produced an orthogonal two dimensional solution. The first dimension is described as supersensory experiences/ecstasy whereas the second is said to embody imagination/existential experiences/spirituality. Finally, the subscale scores have been used to devise distinct profile types for specific groups of individuals including those who have had extensive drug experiences, persons who engage in esoteric practices and people suffering from schizophrenia, major depression and heroine addition (vanQuelkeberghe et al., 1991).

The ASASC is an ambitious and unique instrument in its attempt to be a comprehensive measure of altered states of consciousness. Given the evidence in favor of its validity and reliability, the ASASC appears to hold much promise for use in research concerning the occurrence and subjective nature of non-ordinary experiences. Even though the entire measure is somewhat long, vanQuelkeberghe et al. (1991) emphasize that testing time can be minimized by administering only those subscales which are needed in a specific study. Furthermore, they mention that a 100-item short form of the ASASC is available (no validity or reliability data is presented). Despite this, knowledge regarding the instrument’s construct validity, especially convergent and discriminant validity, and its empirical relationship to other measures of theoretically similar and dissimilar constructs is completely absent. Thus, the instrument should be used with caution until additional psychometric research is completed.

Integration Inventory (II; Ruffing-Rahal, 1991)

The II is an instrument designed to assess well-being or, more specifically, well-being integration in older persons. The measure was developed to address the need "for validated instruments in clinical practice to facilitate the appraisal and tracking of wellness in holistic, experiential and personalized tenus" (Ruffing-Rahal, 1991, p. 10).

Based upon a grounded theory analysis of several interviews with older adults deemed to exhibit well-being, Ruffing-Rahal devised a conception of wellness that consists of three core themes labelled Activity, Affirmation and Synthesis which she describes as follows:
Activity addressed the individual's selection and structuring of meaning-invested realms of activity in everyday life (physical, psychological, spiritual, intellectual), as well as the capability to successfully perform them. The second core theme, Affirmation, related to the individual's perception of a continuity of life meaning, past and ongoing, and expressed specifically in such positive assertions as satisfaction, hopefulness, and religiosity. The third core theme, Synthesis, referred to the individual's reconciliation of painful life experiences and resilient capacity to incorporate and unify the full diversity of past experience into an individual framework of meaning. 

Ruffing-Rahal (1991) adds that her model of well-being seems to be consistent with the Jungian notion of individuation (i.e., the consciousness differentiation and integration of aspects of the psyche or personality into itself): "accordingly, integration connotes the attainment of well-being in terms of the meaningfulness of daily life" (p. 11).

After devising her model of well-being, Ruffing-Rahal constructed an initial item pool of forty items from the transcripts from the aforementioned interviews. She reports that the forty items were revised and refined based upon four years of clinical work and community health research to establish their content and face validity. Following this, the forty refined items were reviewed by eight gerontology and community health experts for their relevance in the assessment of well-being. All the items were judged as having representative content.

The II is a 37-item measure which utilizes a six-point Likert scale ranging from 1-strongly disagree to 6-strongly agree. Ruffing-Rahal states that half of the items are negatively phrased as a strategy to minimize the effects of response bias. Moreover, she indicates that the Likert scale was designed without a neutral response option in order to evade "any tendency to influence response patterns" (p. 13). Though the II could be group administered, Ruffing-Rahal states that the measure can be completed in a personal interview in about twenty minutes. The II is scored by reversing the responses on negatively phrased items and summing the item responses.

The reliability of the II has been shown to be satisfactory as reflected in an internal consistency (alpha) coefficient of .91 (Ruffing-Rahal, 1991). The content validity of the instrument was established through the refinement and review process discussed above. The construct validity (actually convergent validity) of the instrument was evaluated by examining its relationship to two measures of theoretically related constructs, namely the Philadelphia Geriatric Center Morale Scale (POeMS; Lawton, 1972, 1975) and the Spiritual Well-Being Scale (SWBS; Paloutzian & Ellison, 1982), using a sample of older adults (mean age= 77 years). Ruffing-Rahal obtained significant correlations between the II and the total and subscale scores of both the POeMS and the SWBS (total SWBS: r = .52, p < .0001; Religious Well-Being scale: r = .31, p < .0001; Existential Well-Being: r = .73, p < .0001). Lastly, subject ratings of their own well-being in the areas of health, comparison with others, satisfaction with life and happiness, all produced significant correlations with the II, providing further evidence for the validity of the instrument.

The II appears to be a potentially useful instrument for the assessment of well-being from a developmental perspective. Though the instrument has been designed to
assess well-being integration in older populations and has been validated as such, it
seems that it may lend itself for use with populations of varying ages. However, given
that the II has not been empirically validated or systematically utilized with younger
persons, researchers should be cautious in their interpretation of II scores obtained
from such populations. Research investigating the relationship of age to II scores
would prove valuable in establishing the external validity of the measure. In addition,
future work on the validity of the II, especially in terms of factorial validity needs to
be examined before strong confidence in the measure can be had. Despite this, the II
may be useful for "tracking health and wellness interventions [such as meditation or
psychotherapy] on an interview or self-administered basis" (Ruffing-Rahal, 1991, p.
13). The II might also be used to generate unique insights into the relationship of
well-being to transpersonal experience.

**BoundaryQuestionnaire (BQ; Hartmann, 1991)**

The BQ is a measure of the thinness or thickness of boundaries. The development of
the BQ was precipitated by Hartmann's research and clinical work on nightmares,
dreaming and sleep disorders. In particular, Hartmann devised a theory of personality
boundaries through interview and projective test (primarily Rorschach) data obtained
from hundreds of research participants and clients seeking treatment for sleep
disorders. Hartmann contends that his concept of boundaries, though not necessarily
a new one, allows for an explanation of behavior which has not been adequately
captured by personality theories to date (e.g., individual differences in ego strength,
consistency of use of defense mechanisms, perception of self, other, and environ­
ment, ability to experience non-ordinary states of consciousness, prevalence of
psychopathology and the like; the reader is referred to Hartmann, 1991 for a more
detailed discussion). Though he applauds his qualitative approach to the study of
boundaries as being valid and insightful, he reasoned that information on boundaries
could be more simply obtained through the use of a standardized questionnaire.

In general, boundaries can be understood as the psychological area which separates
one component or dimension of the psyche from another and/or from the external
world. Stated differently, boundaries refer "broadly to the degree of connection or
separation between any two entities, processes or functions in the mind" (Hartmann,
1991, p. 233). The specific types of boundaries which Hartmann (1991) has concep­
tualized are operationalized in a 145-item questionnaire. There are twelve categories
of boundaries that are included in the BQ. These consist of the following: 1) Sleep/
Wake/Dream (12 items) (e.g., "when I awake in the morning, I am not sure whether
I am really awake for a few minutes"; Hartmann, 1991, p. 58); 2) Unusual Experi­
ences (19 items) (e.g., "I have had deja vu experiences"; p. 59); 3) Thoughts,
Feelings, Moods (16 items) (e.g., "Sometimes I don't now whether I am thinking or
feeling"; p. 59); 4) Childhood, Adolescence, Adulthood (6 items) (e.g., "I am very
close to my childhood feelings"; p. 59); 5) Interpersonal (15 items) (e.g., When I get
involved with someone, we sometimes get too close"; p. 59); 6) Sensitivity (5 items)
(e.g., "I am very sensitive to other people's feelings"; p. 59); 7) Neat, Exact, Precise
(11 items) (e.g., "I keep my desk or worktable neat and well organized"; p. 59); 8)
Edges, Lines, Clothing (20 items) (e.g., "I like houses with flexible spaces, where you
can shift things around and make different uses of the same rooms"; p. 59); 9)
Opinions about Children and Others (8 items) (e.g., "I think a good teacher must remain in part a child"; p, 59); 10) Opinions about Organizations (10 items) (e.g., "In an organization, everyone should have a definite place and a specific role"; p. 60); 11) Opinions about People, Nations, Groups (14 items) (e.g., "There arc no sharp dividing lines between normal people, people with problems, and people who are considered psychotic or crazy"; p. 60); and 12) Opinions about Beauty, Truth (7 items) (e.g., "Either you are telling the truth or you are lying; that's all there is to it"; p. 60). Hartmann asserts that the items within each category are designed to "cover as wide a range as possible" (p. 60). In addition, he indicates that about two-thirds of the items are worded so as to measure thinness of boundaries while the remaining third are worded in the reverse (i.e., to assess for thickness of boundaries).

In order to complete the BQ, respondents are provided a five-point scale ranging from 0 (no, not at all or not at all true of me) to 4 (yes, definitely or definitely true of me) to rate the extent to which they agree with each item (or find the item to be descriptive of themselves). Scoring is completed by reversing the response scores for the items assessing boundary thickness (i.e., 0=4, 1=3, 2=2, 3=1 and 4=0) and summing the item responses. Scores are obtained for each of the 12 boundary categories. As well, the first eight categories above are summed to obtain a Personal Total score, the latter four categories are summed to obtain a World Total score and all categories are summed to generate a total boundary score (called SumBound). For all categories and total scores, scores can be interpreted as measures of boundary thinness such that the greater the score, the thinner the boundaries.

Hartmann (1991) reports that a preliminary version of the BQ was revised based upon detailed comments obtained from thirty colleagues and students who completed the questionnaire. Thereafter, the measure was administered to over 800 individuals and correlations of items to SumBound scores were calculated. Hartmann found that most of the items con-elated well with the total boundary score. However, seven of the items were found not to con-elate adequately. Consequently, when he completed an analysis of the psychometric properties of the BQ, he decided to not include these items. Thus, all reliability and validity data are based upon 138 items.

The reliability of the BQ has been found to be good, as reflected in an internal consistency coefficient (alpha) of .93 (Hartmann, 1991). The validity of the instrument has also been examined and favorable evidence provided. For instance, a principal components analysis of BQ item scores resulted in the extraction of a 13-factor solution of which the first twelve appeared to support Hartmann's conception of boundaries. Moreover, Hartmann (1991) found that the criterion validity of the BQ is satisfactory; the BQ successfully differentiated between groups of individuals known to vary in the thinness of their boundaries (e.g., artists vs. naval officers). Further evidence of criterion validity has been provided by Celenza (1986) who hypothesized and found that individuals diagnosed with borderline personality disorder demonstrate thinner boundaries as assessed by the BQ and by Levin (1986) who found that nightmare sufferers had notably thinner boundaries than individuals not experiencing such problems. Hartmann notes that some age and sex differences have been observed with the BQ such that women scored slightly thinner on a consistent basis whereas older subjects scored thicker than younger respondents.
In addition to the above psychometric support for the BQ, several investigations have been undertaken which look at the relationship of the instrument to other measures including the MMPI validity and basic clinical scales (Hartmann, 1991), special index scores measuring boundaries on the Rorschach and instruments assessing schizotypal personality (Adair, 1990; Levin, 1986), measures of hypnotizability such as the Harvard Group Scale of Hypnotic Susceptibility, the Absorption Scale and the Field Inventory (Barrett, 1989) and instruments designed to assess the maintenance of emotional distance and defense against affect (Celenza, 1986). This research suggests that the BQ is assessing constructs which a) seem to be largely independent of existing measures of personality, neuroticism and gross psychopathology but associated with some personality disorders such as borderline and schizotypal personality, b) are related to a measure of boundary deficit on the Rorschach, c) are significantly correlated with a person's degree of hypnotic susceptibility (with the strongest relationship produced with the Absorption scale, r=.54, p<.001), and d) are negatively related to measures of defense against affect and emotional distance such that thicker boundaries are associated with greater emotional distance from others and greater defense against strong emotionality. Furthermore, Hartmann (1991) reports the results of a study looking at the relationship of BQ scores to performance on a neuropsychological test battery; as expected, persons with thick boundaries approached problems in a systematic manner but demonstrated little variability or flexibility in their approach, whereas individuals with thin boundaries were less systematic but more flexible and adaptable in their approach to problem solving. Lastly, the BQ has been successfully used in investigations examining the relationship of boundary thinness to autonomic nervous system arousal, the frequency of dreaming, and to a variety of sleep disorders (the reader is referred to Hartmann [1991J for his discussion of this research).

The BQ appears to be an instrument which has tremendous potential for deepening our understanding of the role of boundaries on virtually all aspects of human functioning, including the transpersonal dimensions. Outside of the studies mentioned above, the BQ has been used in research on dreaming (both lucid and nightmare) and creativity (Galvin, 1990; Hartmann, 1989; Levin, Galin & Zywiak, 1991), areas of which have drawn attention in the transpersonal area. Additional applications of the BQ include use in research examining the relationship of boundary thinness to the occurrence of transpersonal experiences and non-ordinary states of consciousness and, conversely, in investigations on the impact of such experiences on an individual's boundaries.

PersonalPhilosophyInventory (PPI; Persinger & Makarec, 1987, 1993)

The PPJ is an instrument which is designed to assess the presence of behaviors generally associated with anomalous temporal lobe activity as found in temporal lobe epilepsy (i.e., temporal lobe signs). The main impetus behind the construction of the measure was to "study the existence of temporal lobe signs within the normal population" (Persinger & Makarec, 1987, p. 181), in order to explore the hypothesis (Persinger, 1983, 1984a, 1984b; Persinger & Valliant, 1985) that anomalous transient electrical foci in the temporal lobe structures (most notably the amygdaloid and hippocampal structures) which has come to be associated with conditions, beliefs and
states of consciousness such as glossolalia, peak experiences, paranormal beliefs and experiences, and temporal lobe epilepsy/psychosis (e.g., Mahl, Rothenberg, Delgado & Hamlin, 1964; Makarec & Persinger, 1985, 1990; Neppe, 1983; Persinger, 1984b; Persinger & Valliant, 1985), is a normally occurring phenomenon which differs in its pathological (e.g., temporal lobe epilepsy) and nonpathological manifestations only in terms of its frequency, duration and intensity.

The PPI is an instrument consisting of 140 yes/no items. Persinger and Makarec (1987) report that "in addition to a variety of control and information statements, it contains items that were designed as less intense equivalents of the most frequent experiences of behaviors that are reported by patients who were diagnosed with complex partial epilepsy. Many of the signs are also reported by patients during [direct] electrical stimulation [of the temporal lobe]" (p. 181). Twenty items ask for information which the test constructors reasoned may be relevant to temporal lobe functioning (e.g., church attendance, hand preference). Persinger and Makarec (1993) state "there are two items per theme to check consistency" (p. 36). Thirty items are described as assessing beliefs that range from "exotic beliefs to extreme religious opinions, egotistical references and fear" (Persinger & Makarec, 1993, p. 36). Fourteen items of the PPJ are used to make up a control or "mundane experiences" scale which is included "to control for 'yes' responding" (Persinger & Makarec, 1993, p. 36). Also, an admission scale which contains nine MMPI Lie scale items is incorporated to identify "silly" responders. Lastly and most importantly, fifty-six items comprise the Total Temporal Lobe Signs (TILS) scale. The TILS scale is broken down into several subclusters including Complex-Partial Epileptic-Like Signs (CPELS), Interictal-Like Behaviors (ILB) and Temporal-Lobe Relevant (TLR) indicators. Persinger and Makarec (1993) describe these item subclusters as follows:

The CPELS items refer to experiences that are very similar or analogous to those most frequently reported by patients during limbic seizures, while ILB items refer to behaviors that are similar to those reported by patients when (scalp) EEG-detectable seizures are not occurring although interictal spikes may be visible. The TLR indicators compose a cluster of items that are similar to behaviors that traditionally have been associated with temporal lobe epilepsy (p. 37).

The various PPJ subscale scores are calculated as a percentage of yes responses, a procedure which involves summing the number of yes responses for each subscale, dividing the sum by the number of items belonging to the subscale and multiplying by 100.

The reliability of the TILS scale and its component item subclusters has been shown to be satisfactory as suggested in test-retest correlations of .90, .85 and .70 for 10-day, 31-day and 100-day retest intervals, respectively. The control subscale has also generated comparable test-retest correlations over the 10- and 100-day retest intervals (Persinger & Makarec, 1987). In addition, the TILS subscales have produced inter-item reliability coefficients (alpha) of about .70 (Persinger & Makarec, 1993).

The criterion validity of the PPJ has been shown to be adequate. Makarec and Persinger (1985, 1990) obtained correlations of moderate strength between scores on
temporal lobe item clusters and religious beliefs and specific electric patterns in the
frontal lobes, but not the occipital lobes, of a sample of normal subjects. Moreover,
the TTLS subscale clusters, especially CPELS, has been successfully used to differ­
entiate between groups known to differ in the frequency, intensity and duration of
transient temporal lobe activity they experience (i.e., groups known to vary in the
to which they report experiencing temporal lobe signs; e.g., temporal lobe
epileptics, meditators, artists, and persons reporting paranormal and religious experi­
ences; Morneau et al., in press; Persinger, 1984a, 1984b, 19840, 1993; Persinger &
Makarec, 1993). As well, Persinger and Makarec (1993) state that they have observed
consistent CPELS score elevations in "patients referred for mild to moderate anxiety,
depression and career (self-identity) crisis ... " (p. 34). Evidence for the factorial
validity of the PPI has been much more equivocal but is still supportive of the
instrument; Persinger (1984c) factor analyzed the TTLS and control cluster items and
produced a two factor solutions (TILS items loaded on the first factor; control items
loaded on the second factor). Conversely, Persinger & Makarec (1993) obtained four
factor solutions for men and women separately when they factor analyzed the 56
TTLS items (which they labelled Sensory Enhancement, Affective-Dissociation,
Ego-alien Intrusion and Literary Interests).

The PPI has been used to examine the relationship of temporal lobe signs and a
variety of psychological constructs in norma) individuals (with normality being
defined by MMPI criteria). Persinger and Makarec (1993) assert that

normal volunteers ... who display elevated CPELS are also significantly more: (1)
suggestible (Ross & Persinger, 1987) according to Spiegel's (Spiegel & Spiegel, 1978)
Hypnotic Induction Profile; (2) subject to dissociative states (Richards & Persinger, 1991);
(3) prone to subjective paranormal experiences and beliefs (Persinger & Valliant, 1985);
and (4) likely to endorse multiple childhood fantasies and imaginings according to the
Wilson-Barbescale (1978) (p. 34).

Persinger and Makarec (1993) add that the notable relationship between the CPELS
and imagination, fantasy and suggestibility, factors which have been proposed as
facilitating therapeutic interventions (e.g., Rossi, 1986), suggest that the instrument
may be useful in clinical settings.

The PPI is a distinctive instrument which has served Persinger and his colleagues
well in providing evidence in support of their continuum model of temporal lobe
functioning (Persinger & Makarec, 1993). Even though the measure is based on a
highly reductionistic view of numerous experiential states and behaviors (i.e., that
experiences such as mystical, religious and paranormal experiences as well as
temporal lobe epilepsy are a function of the same type of transient brain activity), it
nonetheless appears to lend itself for use in transpersonally oriented research. For
instance, the PPI could be used to in exploratory research to examine the relationship
between types of transpersonal experiences and temporal lobe functioning.

Holistic Living Inventory (HLI; Stoudenmire, Batman, Pavlov & Temple, 1985)

The HLI was constructed in an attempt to eliminate the lack of clarity that the notion
of holistic living (i.e., holism), was receiving in the literature during the 1970s and
1980s. According to Stoudenmire et al. (1985), the HLI delineates specific dimensions of holistic living which are defined in operational terms. On the HLI, the assessment of holistic living is grounded on behaviors which are seen as leading to optimal functioning. The inventory focuses on reported behaviors and not on thoughts or feelings of people nor on what they think or feel. This was done under the assumption that, "if people engage often enough and accurately enough in the relevant activities, sooner or later they will achieve their desired ends" (Stoudenmire et al., 1985, p. 303).

The authors of the HLI selected four components or dimensions of holistic living which are in accord with the conceptions of holism held by such groups as the American Holistic Medical Association and the Institute of Religion and Health. These dimensions, and the definitions of optimal functioning which apply to each of them, are as follows:

a) physical dimension: optimal functioning is defined as the enhancement of physical fitness through responsible exercise and weight control, temperate use of non-nutritive substances, and the regular monitoring and regulation of the physical functioning; b) emotional dimension: optimal functioning is defined as the enhancement of emotional satisfaction through responsible pleasure seeking in all areas of people, places and things including attention to sexuality; the avoidance and/or early remediation of unpleasant emotions such as anger, depression and anxiety; c) mental dimension: optimal functioning is defined as the enhancement of mental development through pursuits of reason and knowledge, the cultivation and depreciation [sic] of aesthetics and the avoidance and/or remediation of any irrational attitudes about the nature of mankind; d) spiritual dimension: optimal functioning is defined as the enhancement of spiritual "oneness" with whatever a person considers to be higher than himself as an individual through the use of reason, experience and intuition; the ongoing development of and the adherence to a responsible ethical system (Stoudenmire et al., 1985, p. 303-304).

The HLI has eighty multiple choice items, twenty for each of the four dimensions. Each item has five choices ranging from the least optimal (A), to the most optimal (E). Scoring for each item is one point for A, two points for B, three for C, four for D and five for E. Scores consist of the item sums for each of the four dimensions. The higher a score is on a given dimension, the more optimal a respondent is functioning on that dimension.

Research exploring the psychometric characteristics of the HLI has shown that the inventory has adequate reliability as indicated in Spearman-Brown split-half reliabilities ranging from .72 for the emotional dimension to .91 for the mental dimension (Stoudenmire et al., 1985). Satisfactory validity (including a demonstrated ability to differentiate between known groups) for each of the four dimensions has also been shown (Stoudenmire, Batman, Pavlov & Temple, 1986), though a significant relationship between the mental and spiritual dimensions has been observed ($r = .33, p < .01$; Stoudenmire et al., 1985). Also, a significant age effect has been found on the spiritual dimension indicating that older persons (e.g., forty years and over) report engaging in more optimal spiritual behaviors than do younger persons (Stoudenmire et al., 1985).

The HLI has been used effectively in research as a tool for assessing treatment improvement in forty-five personality disordered residents of a six-week alcohol
treatment program (Stoudenmire, Stevens & Cumbest, 1989). In addition, the items of the HLI have been successfully used as a basis for developing a repertoire of positive modelling behaviors for disturbed children (Stoudenmire, Temple, Pavlov & Batman, 1988).

HLI is unique among the measures reported in this paper in that it is the only one which assesses four recognized aspects of well-being, including the spiritual. This should make the HLI a particularly appealing test since a researcher interested in the relationship between spirituality and mental or physical health, for example, would only have to administer the HLI instead of using a battery of measures, thereby saving time while also assessing a wide range of constructs. In terms of applications to transpersonal research topics, the HLI could be used to assess the relative impact of psychotherapy (i.e., the differential effects of various therapies, including meditation) or spiritual experience, on people's level of functioning. The HLI may also be used to show differential change in areas of optimal functioning in clients across different therapeutic modalities (e.g., bioenergetics versus mindfulness meditation).

**Death Transcendence Scale (DTS; Hood & Morris, 1983)**

The DTS was constructed to assess a conception of death transcendence devised by Hood and Morris (1983) which, in turn, is based on the work of Lifton (Lifton, 1976, 1979; Lifton & Olson, 1974). The primary motivation behind the construction of the instrument was the perception of Hood and Morris that empirical work on death has been hindered by a lack of an organizing principle or theory which lends itself to fruitful scientific investigation. At that time, death research, especially those areas focusing on attitudes toward death, appeared "to be influenced, directly or indirectly, from denial theories that postulate a universal 'death anxiety'" (Hood & Morris, 1983, p. 355), which continued to dominate the area "despite repeated failures of investigators to identify such manifest concerns across diverse samples using a wide variety of measures" (Hood & Morris, 1983, p. 355; Kastenbaum & Costa, 1977). Hood and Morris wanted to devise a theory and empirical assessment tool which allowed for a cognitive as opposed to attitudinal approach to the study of death and death transcendence. The DTS is a 23-item paper and pencil measure which operationalizes Lifton's five modes of death transcendence. Four of these modes are described by Hood and Morris (1983) as being primarily cognitive (i.e., beliefs) while the fifth is said to be an experiential/mystical mode. The test constructors add that "the experiential basis of the mystical mode in conjunction with one or more of the basic cognitive modes gives it a special status in which death transcendence is 'experienced' and not merely 'believed'" (Hood & Morris, 1983, p. 357). Alternatively, Hood and Morris (1983, p. 357) describe the cognitive modes as follows:

The four basic cognitive modes are biosocial, creative, religious and the nature modes. Each of these modes provides symbols and meanings for a cognitive confrontation with and hence transcendence of death. For instance, in the biosocial mode, we perceive ourselves to be part of our children, family and other groups, and this provides a continuity to our lives despite our own personal death. Similarly, the creative mode includes work and projects with which one identifies, and this too provides continuities transcending the individual life. The religious mode includes specific religious traditions that provide cognitively meaning-
ful orientations to death. The nature mode involves an identification with natural processes that transcend the particular individual.

Items were written to assess each of Lifton’s cognitivemodes of death transcendence (i.e., nature, biosocial, religious and creative) as well as his fifth experiential mode of mysticism. The mysticism items were taken from the factor assessing general mysticism on Hood’s (1975) M-Scale. Item responses are provided on a four-point Likert scale ranging from 1-strongly disagree to 4-strongly agree. Vandecreek and Nye (1993) state that “scores on each subscale describe the level of investment attributed to them by the respondent” (p. 279).

Using a sample of 587 people, Hood and Morris (1983) examined the reliability and factorial validity of the DTS and found adequate support for both. In terms of reliability, they obtained coefficient alphas ranging from .53 (nature mode) to .75 (religious mode) (average alpha = .62). Alternatively, the results of a principal components analysis (using a quartimax rotation) produced a five-factor solution which corresponded to each of the modes of death transcendence. In addition to the above, Hood and Morris (1983) investigated the relationship of the five subscales of the DTS to measures of related constructs including Spilka’s (Spilka, Stout, Minton & Sizemore, 1977) Fear of Death and Death Perspectivescales and the measure of intrinsic and extrinsic religiosity created by Allport and Ross (1967). In all cases, the expected relationships were found (e.g., Intrinsic religiosity positively correlated with the Religious, Mysticism and Biosocial subscales and negatively with the Creative and Nature scales; Extrinsic religiosity correlated significantly with the Creative, Nature and Biosocial subscales but not the Religious and Mysticism modes).

In a follow-up study, Vandecreek and Nye (1993) administered the DTS (with three items they constructed which were added to the Biosocial scale) to two different adult samples for the purpose of complementing Hood and Morris’ (1983) work with college students. With the first sample, which consisted of 166 subjects, Vandecreek and Nye (1993) performed a principal components analysis using a quartimax rotation to determine if the factor structure of the DTS was robust. An initial analysis resulted in the extraction of eight factors, the last three of which were determined to be insubstantial (only two items loaded on each). Thereafter, the researchers reanalyzed the DTS item scores using a five-factor solution. However, they found that only the first three factors were replications of those obtained by Hood and Morris (1983); the items belonging to the Nature and Biosocial subscales tended to load on more than one factor. In addition, Vandecreek and Nye (1993) calculated inter-item consistency coefficients for the DTS scales and obtained Cronbach’s alphas ranging from .55 (Nature) to .84 (Mystical). The mean alpha was .79. Using a second sample of consisting of 132 individuals from a tertiary care hospital and 141 family members in a surgery waiting room, Vandecreek and Nye (1993) performed a second factor analysis using the same procedures and obtained a five-factor solution more akin to Hood and Morris (1983). Coefficient alphas were again calculated for the five subscales (with the three new Biosocial items being included in the analysis). Alphas ranged from .51 for the Nature mode to .79 for the Religious mode (mean alpha = .74). Vandecreek and Nye concluded that the Religious, Mystical and Creative subscales appear to be reliable whereas the Biosocial and Nature modes are more fluid.
Furthermore, they noted that subjects had difficulties understanding the mystical subscale items (especially the negatively phrased ones). Consequently, many subjects did not respond to these items. Alternatively, Vandecreek and Nye observed that the subjects who did complete the mystical subscale items tended to obtain higher mean scores on the DTS subscales, a finding interpreted by them as suggesting that when "mystical experiences occur, they have a lasting effect that creates a strong sense of death transcendence" (Vandecreek & Nye, 1993, p. 283).

The DTS is an interesting measure in its claim on measuring a multifaceted cognitive conception of death transcendence. Following from this, the instrument seems to hold some potential for research focusing on such areas as death-perceptions and near death experiences. However, the evidence in favor of the reliability and validity of the measure appears to be equivocal at best. Thus, until additional psychometric work is done on the scale, investigators should be cautious of their interpretations of DTS subscale scores, especially those scores involving the Nature and Biosocial modes.

Temperament and Character Inventory (Tel; Cloninger, Svrakic & Przybeck; 1993)

The TCI is an instrument designed to assess a seven-factor psychobiological model of personality developed by Cloninger and his colleagues (e.g., Cloninger, 1987; Cloninger, Svrakic & Przybeck, 1993).

This instrument, and the model of personality it is designed to operationalize, first took the form of a three-factor model of temperament which was assessed with a 100-item measure called the Tridimensional Personality Questionnaire (TPQ; Cloninger, Svrakic & Przybeck, 1991). However, based upon the observed limitations of the three-factor model (e.g., Cloninger, Sigvardsson & Bohman, 1988; Sigvardsson, Bohman & Cloninger, 1987; Waller, Lilienfeld, Tellegen & Lykken, 1991), a more comprehensive seven-factor model has been developed which "supersedes models with fewer factors and is formulated to allow differential diagnosis of personality disorder subtypes from one another and from other psychiatric disorders" (Cloninger et al., 1993, p. 976).

The TCI is a 226 true-false item paper and pencil self-report inventory which operationalizes the seven-factor model. Included amongst these items are 107 items from the TPQ which are used to measure the four temperament dimensions of Novelty Seeking, Harm Avoidance, Reward Dependence and Persistence. Moreover, developed from an initial item pool of 195 items, the TCI includes 119 items used to operationalize the three character dimensions of Self-directedness, Cooperativeness and Self-Transcendence. (Note that the temperament dimensions are generally described as biologically based components of personality which are said to be "independently heritable, manifest early in life and involve preconceptual biases in perceptual memory and habit formation" [Cloninger et al., 1993, p. 975]. Conversely, the character dimensions are consciously learned components of personality which "mature in adulthood and influence personal and social effectiveness by insight learning about self-concepts" [Cloninger et al., 1993, p. 975]). All of the TCI
dimensions except Persistence (which was originally thought of as a component of Reward Dependence and is defined as a temperament factor which is a heritable bias that involves persistence despite frustration and fatigue), are comprised of several subscales, Basic descriptions of the remaining six general personality dimensions along with their component subscales are as follows:

1) Novelty Seeking: This temperament dimension "is viewed as a heritable bias in the activation or initiation of behaviors such as frequent exploratory activity in response to novelty, impulsive decision making, extravagance in approach to cues of reward, and quick loss of temper and active avoidance of frustration" (Cloninger et al., 1993, p. 977). It is made up of four subscales labelled Exploratory Excitability vs. Rigidity, Impulsiveness vs. Reflection, Extravagance vs. Reserve, and Disorderliness vs. Regimentation; 2) Harm Avoidance: "is viewed as a heritable bias in the inhibition or cessation of behaviors, such as pessimistic worry in anticipation of future problems, passive avoidance behaviors such as fear of uncertainty and shyness of strangers, and rapid fatigability" (Cloninger et al., 1993, p. 977). There are four subscales labelled Anticipatory Worry vs. Optimism, Fear of Uncertainty vs. Confidence, Shyness vs. Gregariousness, and Fatigability and Asthenia vs. Vigor; 3) Reward Dependence: This temperament factor is conceived of as "a heritable bias in the maintenance or continuation of ongoing behaviors and is manifest as sentimentality, social attachment, and dependence on approval of others" (Cloninger et al., 1993, p. 977). This dimension is made up of three subscales called Sentimentality vs. Insensitivity, Attachment vs. Detachment and Dependence vs. Independence; 4) Self-Directedness: This is a character dimension which "refers to self-determination and willpower", or the ability of an individual to control, regulate, and adapt behavior to fit the situation in accord with individually chosen goals and values" (Cloninger et al., 1993, p. 979). This factor is comprised of five components labelled Responsibility vs. Blaming, Purposeful vs. Goal-Undirected, Resourcefulness vs. Apathy, Self-Acceptance vs. Self-Striving, and Congruent Second Nature; 5) Cooperativeness: This concerns the "individual differences in identification with and acceptance of other people" (Cloninger et al., 1993, p. 980). Cooperativeness is made up of five subscales defined as Social Acceptance vs. Intolerance, Empathy vs. Social Disinterest, Helpfulness vs. Unhelpfulness, Compassion vs. Revengefulness, and Pure-Heartedness vs. Self-Serving; 6) Self-Transcendence: This character dimension "refers generally to identification with everything conceived as essential and consequential parts of a unified whole" (Cloninger et al., 1993, p. 981). It is made up of three subscales entitled Self-Forgetfulness vs. Self-Conscious Experience, Transpersonal Identification vs. Self-Isolation, and Spiritual Acceptance vs. Rational Materialism. In the case of the three character dimensions, the subscales are conceived as various aspects of developmental processes which result in the manifestation of these personality traits.

The reliability of the TCI factor scales and subscales has been shown to be adequate, at least in terms of interitem consistency. The seven major TCI scales obtained coefficient alphas ranging from .65 (Persistence) to .89 (Cooperativeness) with a mean alpha of .81. The TCI subscales produced alphas ranging from .47 (Empathy vs. Social Disinterest) to .86 (Compassion vs. Revengefulness). The mean alpha for the subscales was .67 (Cloninger et al., 1993). Alphas of comparable magnitudes were also obtained using a sample of 136 psychiatric patients (Svrakic, Whitehead, Przybeck & Cloninger, 1993)
The validity of the TCI has been examined in terms of its factorial, convergent and discriminant and criterion/predictive validity. In all three instances, support for the instrument has been obtained. For example, in terms of the former, Cloninger et al. (1993) performed two principal components analyses using promax rotation to first examine the structure of the character scales and then to investigate the factor structure of the entire TCI. The first analysis resulted in the extraction of three factors which corresponded to the three character dimensions. In the second principal components analysis, Cloninger et al. (1993) obtained a seven-factor solution which confirmed their seven dimensional model of personality and supported the validity of the seven TCI scales and their corresponding subscales. Turning to convergent and discriminant validity, Svrakic, Whitehead, Przybeck and Cloninger (1993) report data from an earlier unpublished work showing that the NEO-PI obtained strong multiple correlations with all of the TCI factors (multiple correlations ranging from .63 to .83) except for Persistence and Self-Transcendence (multiple r = .36 and .30, respectively). This finding is supportive of the validity of the TCI and especially the Self-Transcendence dimension since the five-factor model of personality does not have any components which address the humanistic and transpersonal aspects of personality (Cloninger et al., 1993). Lastly, as per expectation, Svrakic et al. (1993) found that all of the dimensions of the TCI save Self-Transcendence could be successfully utilized to differentiate between personality disorder clusters/subtypes. Self-Transcendence was found only to negatively correlate with the presence of symptomology for schizoid personality disorder (r = -.23, p < .05).

The TCI is the only major personality instrument currently in existence which explicitly incorporates a transpersonal component. Though additional examinations of its psychometric properties are needed, the measure readily lends itself to research exploring the relationship of personality to spirituality and transpersonal states of consciousness.

Phenomenology of Consciousness Inventory
(PCI; Pekala, 1982; Pekala, Steinberg & Kumar, 1986)

The PCI is an instrument designed to assess various dimensions of phenomenological experience. More specifically, the measure is a revision and refinement of the Dimensions of Consciousness Questionnaire (DCQ; Pekala & Wenger, 1983) which is used "to assess phenomenological state effects associated with specific stimulus conditions (e.g., hypnosis, drugs, meditation)" (Pekala, Steinberg & Kumar, 1986, p. 983). The test constructors state that although the DCQ demonstrated satisfactory reliability and validity, a shorter instrument was needed for research purposes.

The PCI is composed of fifty-three items that were taken from a version of the DCQ which was modified to include the four primary emotions of anger, fear, sadness and joy postulated by Plutchik (1980). Items which were retained were kept because they significantly contributed to the homogeneity of the constructs assessed (i.e., they enhanced the internal consistency of the measure). The items of the PCI encompass twelve major dimensions of phenomenological experience including Positive Affect, Negative Affect, Altered Experience, Visual Imagery, Attention, Self-awareness,
Altered Awareness, Internal Dialogue, Rationality, Volitional Control, Memory and Arousal. Furthermore, the first five dimensions contain a number of minor aspects. For Positive Affect these are Joy, Sexual Excitement and Love; Negative Affect embodies Anger, Sadness and Fear; Altered Experience includes Body Image, Time Sense, Perception, and Meaning; Visual Imagery incorporates Amount and Vividness; and, Attention contains Direction (Inward) and Absorption.

Pekala, Steinberg and Kumar (1986) report that two forms of the PCI were constructed using the identical items arranged in different sequences.

The reliability of the PCI has been shown to be satisfactory. For instance, before creating the two forms of the PCI, Pekala et al. (1986) examined the internal consistency of the instrument and found coefficient alphas ranging from .70 to .90 for all the major and minor dimensions (mean alpha for major dimensions > .80). They also obtained an average reliability index of .85 across all subjects who completed the measure. Thereafter, the internal consistency of the two forms was examined using data gathered from subjects under different stimulus conditions who obtained reliability index values of two or less; form 1 produced alphas ranging from .65 to .85 (mean = .76) for the major dimensions and form 2 obtained alpha coefficients ranging between .74 and .85 (mean = .80).

The validity of the PCI has mostly been examined in terms of criterion validity (i.e., its ability to predict differences between stimulus conditions). Pekala, Steinberg and Kumar (1986) found that significantly different PCI scores were obtained by groups of subjects undergoing different stimulus conditions (eyes open, eyes closed and hypnotic induction); similar findings were obtained in an earlier study by Pekala, Wenger & Levine (1985). Moreover, Pekala and Kumar (1984) found that the PCI could successfully predict hypnotic susceptibility. In general, these findings suggest that the PCI is a valid measure which can adequately differentiate between phenomenological states.

Though the PCI could use additional psychometric investigation to provide a better picture of its validity, this instrument seems to show promise for phenomenological research. Walsh (1995) states that the development of quantitative measures such as the PCI is the next step of research to provide a systematic empirical basis for making distinctions between various transpersonal states of consciousness.

Spiritual Well Being Scale (SWBS; Ellison, 1983; Paloutzian & Ellison, 1982)

The SWBS is a measure of spiritual well-being which was created in response to the observation that little attention had been given to the impact of spirituality and religiosity on well-being and quality of life. Based on Moberg's (Moberg, 1971; Moberg & Brusek, 1979) conception of spiritual well-being as a two dimensional construct consisting of a vertical dimension (i.e., "our sense of well being in relation to God"; Ellison, 1983, p. 331), and a horizontal dimension (i.e., "a sense of life purpose and life satisfaction, with no reference to anything specifically religious," Ellison, 1983, p. 331), Paloutzian and Ellison (1982) constructed an instrument which
could be used to investigate empirically the spiritual component of well-being. As Ellison (1983, p. 332) states, "... Paloutzian and Ellison (1979) began development of [the SWBS so as to] provide a general measure of spiritual well-being while not getting bogged down in specific theological issues or a priori standards of well-being which may vary from one religious belief system or denomination to another."

The SWBS is a twenty-item paper and pencil measure which utilizes a six point response scale ranging from 1- strongly disagree to 6- strongly agree. The instrument is divided into two subscales consisting of ten items each which are used to operationalize of Moberg's dimensions of spiritual well-being. The first scale, called Religious Well-Being (RWB), is used to assess Moberg's vertical dimension whereas the second subscale, Existential Well-Being (EWB), is used to measure the horizontal dimension. In order to ensure adequate differentiation between the RWB and EWB items, all of the RWB items contain references to God while the EWB items do not. In addition, half of the items from both subscales are worded in positive and negative directions so as to control response bias (Paloutzian & Ellison, 1982). Scores can be obtained for RWB and EWB by reversing the response values for negatively worded items and summing the item responses. A total Spiritual Well-Being (SWB) score is obtained by summing the RWB and EWB scores.

The psychometric properties of the SWBS have been examined in a number of studies and strong support for its reliability has been provided. The SWBS and its subscales have produced test-retest correlations ranging from .73 to .99 for one, four, six and ten-week retest intervals. Moreover, internal consistency coefficients (alpha) have been obtained which range from .78 to .94 (Brinkman, 1989; Kirschling & Pittman, 1989; Paloutzian & Ellison, 1982).

Alternatively, extensive empirical examination of the validity of the SWBS has resulted in mixed support for the instrument. In support of the measure, Paloutzian and Ellison (1982) claim that the SWBS has adequate face validity as can be demonstrated by an inspection of item content. Evidence of construct validity has been provided through the finding of significant correlations between the SWBS, its subscales and a wide variety of instruments and criterion measures including the Purpose in Life test (see Table 2) \( r = .52, .28, .68, p < .001 \) for total SWBS, RWB and EWB, respectively) and Allport and Ross' (1967) Intrinsic-Extrinsic Religious Motivation scale \( r = .67, .79, p < .001 \), and .19, p < .01 for SWBS, RWB and EWB with Intrinsic motivation; \( r = .26, .26, p < .01 \) and .15, p < .05 for SWBS, RWB and EWB with Extrinsic motivation) (Ellison, 1983). Moreover, evidence supporting the SWBS as a measure of well-being has been impressive. The instrument and its subscales have been found to correlate positively with "several standard indicators of well-being, including a positive self-concept, finding meaning and purpose in life, high assertiveness and low aggressiveness, good physical health and good emotional adjustment. In contrast, SWBS is negatively correlated with indicators of ill health, emotional maladjustment, and dissatisfaction with life" (Bufford, Paloutzian & Ellison, 1991, p. 57-58).

Despite this supporting evidence, the validity of the SWBS has been seriously challenged for at least two major reasons. First, there is a question as to its factorial
validity. Paloutzian and Ellison (1982) report the findings of an item factor analysis which resulted in the extraction of three factors (using a varimax rotation); the first factor contained all the RWB items while the second and third factors contained the EWB items and were described as reflecting life direction and life satisfaction. Conversely, in detailing the results of the same analysis, Bufford, Paloutzian and Ellison (1991) and Ellison (1983) indicate that three factors were found but report that only two factors were retained, the first of which contained the RWB items and the second which contained most of the EWB items. In all three articles, it is claimed that the obtained results support the validity of the instrument. Ledbetter, Smith, Fischer, Vosler-Hunter and Chew (1991) note that these findings are difficult to interpret because each of the articles, most notably Ellison (1983), report them in an ambiguous manner (e.g., how many factors actually were retained?). Also, Ledbetter, Smith, Fischer et al. (1991) question why a varimax factor rotation was used when Ellison (1983) has postulated that EWB and RWB may be components of a higher order spiritual well-being construct. They argue that if RWB and EWB are indeed aspects of a higher-order factor, then the factor analysis should have used an oblique factor rotation. In light of their critique of the factor structure of the SWBS, Ledbetter, Smith, Fischer et al. (1991) performed two confirmatory factor analyses to test the goodness of fit of both one- and two-factor models. Though they found that the two-factor model explained the SWBS significantly better than the one-factor model, Ledbetter, Smith, Fischer et al. (1991) concluded "neither model provided a good conceptualization of the factor structure of the Spiritual Well-Being Scale.... These results suggest that, contrary to Ellison's two-factor conceptualization and a postulated general factor model, the SWBS may be factorial complex. This complexity makes interpretation of scores ambiguous" (p. 94).

Second, when used with certain subject populations, most notably religious samples, the SWBS has been shown to be limited by ceiling effects such that its ability to differentiate between individuals and samples high in spiritual well-being is compromised (Ledbetter, Smith, Vosler-Hunter & Fischer, 1991). Ledbetter, Smith, Vosler-Hunter and Fischer (1991) assert that "the psychometric implications [of these findings] suggest that previously reported relationships between the SWBS and other variables are underestimated for religious samples. In addition, these results indicate that the clinical usefulness of the SWBS is limited to low scores" (p. 49).

Notwithstanding the problems surrounding the validity of the SWBS (which also includes the problem of a confound between spirituality and religiosity), the instrument has been employed in a relatively large number of studies utilizing subjects from varied populations (i.e., not just religious samples; see Bufford, Paloutzian & Ellison, 1991; Ellison & Smith, 1991) and has found much success. In consideration of the strong connections that the SWBS has developed with the "nomological net" of constructs, the instrument appears have some value to transpersonal research as an "empirically anchored" measure of general spiritual well-being. However, we agree with Bufford, Paloutzian and Ellison (1991) who state that "the scale [is] not useful in distinguishing among individuals for purposes such as selection of spiritual leaders. The scale is useful for research and as a global index of lack of well-being" (p. 56). Thus, investigators using this SWBS should exercise caution in how they interpret its scores, especially with subjects who are judged as being highly spiritual.
### TABLE 2
MEASURES OF RELEVANCE TO TRANSPERSONAL RESEARCH NOT DISCUSSED

<table>
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<td>Intrinsic-Extrinsic Religious Orientation Scale</td>
<td>Allport &amp; Ross (1967); Genia (1993); Kahoe (1974)</td>
</tr>
<tr>
<td>Intrinsic-Extrinsic Religious Motivation</td>
<td>Feagin (1964)</td>
</tr>
<tr>
<td>Religious/Spiritual Beliefs and Experiences</td>
<td>James (1904/1987)</td>
</tr>
<tr>
<td>Ways to Live Scale</td>
<td>Monis (1951, 1956)</td>
</tr>
<tr>
<td>Christian Life Assessment Scale</td>
<td>Smith (1986)</td>
</tr>
<tr>
<td>Psychic Experiences</td>
<td>Shafer (1982)</td>
</tr>
<tr>
<td>Test Description</td>
<td>Reference(s)</td>
</tr>
<tr>
<td>------------------------------------------------------</td>
<td>---------------------------------------------------</td>
</tr>
<tr>
<td>Paranormal Beliefs</td>
<td>Jones, Russell &amp; Nickel (1977)</td>
</tr>
<tr>
<td>Paranormal Beliefs</td>
<td>Blum &amp; Blum (1974)</td>
</tr>
<tr>
<td>Paranormal Beliefs</td>
<td>Randall &amp; Desrosiers (1980)</td>
</tr>
<tr>
<td>Paranormal Beliefs</td>
<td>Scheidt (1973)</td>
</tr>
<tr>
<td>Paranormal Beliefs</td>
<td>Killen, Wildman &amp; Wildman (1974)</td>
</tr>
<tr>
<td>Fear of Death and Death Perspective Scales</td>
<td>Spilka, Stout, Minton &amp; Sizemore (1977)</td>
</tr>
<tr>
<td>Fear of Personal Death Scale</td>
<td>Florian &amp; Kravetz (1983)</td>
</tr>
<tr>
<td>Nystul Turning Point Survey</td>
<td>Nystul (1993)</td>
</tr>
<tr>
<td>Avoidance of Existential Confrontation Scale</td>
<td>Thauberger (1976); Thauberger &amp; Sydiaha-Symor (1977)</td>
</tr>
<tr>
<td>Feelings, Reactions and Beliefs Survey</td>
<td>Cartwright &amp; Mori (1988); Cartwright, de Bruin &amp; Berg (1991)</td>
</tr>
<tr>
<td>Myers-Briggs Type Indicator</td>
<td>Briggs &amp; Myers (1987); Myers &amp; McCaulley (1985)</td>
</tr>
<tr>
<td>Singer-Loomis Inventory of Personality</td>
<td>Singer &amp; Loomis (1984); MacDonald &amp; Holland (1993)</td>
</tr>
<tr>
<td>Jungian Type Survey</td>
<td>Wheelwright, Wheelwright &amp; Buehler (1964); Mattoon &amp; Davis (1995)</td>
</tr>
<tr>
<td>NEO Personality Inventory-Revised</td>
<td>Costa &amp; McCrae (1992)</td>
</tr>
<tr>
<td>Personal Orientation Inventory</td>
<td>Shostrom (1964, 1968); Welch, Tate &amp; Medeiros (1987)</td>
</tr>
</tbody>
</table>

**Note:** The first reference given for each test is the primary citation providing either the test or a means of getting the test. Additional citations involve the use of the test in research or make mention of the measure in some evaluative capacity.

5: Refer to end note number five.

### Table 3

**Sources of Additional Measures and/or Literature Focusing on Theoretical Considerations of Testing or Empirical Findings Generated Through Use of Tests**

<table>
<thead>
<tr>
<th>Reference</th>
<th>Type of Measures Assessment Issues Discussed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stoll (1979)</td>
<td>Spirituality</td>
</tr>
<tr>
<td>Lukoff &amp; Lu (1988)</td>
<td>Mystical Experience</td>
</tr>
<tr>
<td>Lukoff, Turner &amp; Lu (1993)</td>
<td>Spirituality</td>
</tr>
<tr>
<td>Spilka, Hood &amp; Gorsuch (1985)</td>
<td>Religion/Mysticism</td>
</tr>
<tr>
<td>Butman (1990)</td>
<td>Religious Development</td>
</tr>
<tr>
<td>Silverman (1983)</td>
<td>Religion/Religiosity/Mysticism</td>
</tr>
<tr>
<td>Robinson &amp; Shaver (1973)</td>
<td>General</td>
</tr>
<tr>
<td>Robinson, Shaver &amp; Wrightsman (1990)</td>
<td>General</td>
</tr>
<tr>
<td>Chun, Cobb &amp; French (1975)</td>
<td>General</td>
</tr>
<tr>
<td>Goldman &amp; Osbourne (1985)</td>
<td>General</td>
</tr>
<tr>
<td>Mental Measurements Yearbook</td>
<td>General</td>
</tr>
<tr>
<td>Anastasi (1988)</td>
<td>General</td>
</tr>
<tr>
<td>Cronbach (1990)</td>
<td>General</td>
</tr>
</tbody>
</table>
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However, whenever we rely on language and language descriptors to devise a theory, phenomenological map or self-report instrument, we must keep in mind that word meanings and usage vary as a function of the cultural and historical context in which the words/descriptors are being used (Collier, Minton & Reynolds, 199; Derrida, 1976; Gergen, 1985). Moreover, the sample of descriptors used in devising any of the above will directly influence the form and completeness of the theory, map or test (e.g., if a phenomenological map of an experiential state is devised from a sample of 100 child experiences, 100 adults, it is reasonable to assume that the resulting maps will differ tremendously). In turn, this difference can be attributed in large part to the manner in which subjects from the two samples use language. Consequently, it would seem that differences observed in language descriptors used may not reflect objective differences between theories and/or testing instruments.

By response bias we are including any and all identified response sets and/or styles which may have an influence over the validity of a psychometric measure. This would include faking good, faking bad, socially desirable responding, and deviation. The reader is referred to Anastasi (1988) and Cronbach (1990) for a discussion of this topic.

However, another stance can be taken to the apparent confound between religion and transpersonal constructs in many psychometric instruments. Based on Cronbach and Meehl’s (1955) notion of nomological net, all measures within a construct, related construct, or related measures, can be found in the research on which it was built but equally so from its established empirical relations with other constructs and behaviors which are already part of the nomological net. Following from this, if a measure shows itself to have many robust relations with other instruments and behaviors, then the meaning of that measure can be reinterpreted in light of such relations. Thus, within the context of this line of reasoning, measures of transpersonal constructs which appear to be confounded with religion/religiosity can be viewed as being as valuable for research as instruments without such a confound, provided that they produce strong and reliable empirical relationships with other concepts, behavior and phenomena which are of interest and relevance to a given research domain. In consideration of this argument and the apparent importance of establishing a nomological net of constructs, we have made every effort to report the correlations between the measures discussed in this article whenever the information was available.

The measures have been included not because they assess transpersonal constructs per se, but because they appear to have value for transpersonal research, especially in terms of the relationship of personality (Jungian Type Survey, Myers-Briggs Type Indicator, Singer-Loomis Inventory of Personality, NED Personality Inventory-Revised) and self-actualization (Personal Orientation Inventory) to various transpersonal practices and experiences.

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