



**Verifying the Validity and Reliability  
of the *Personality Pattern Inventory*:  
Preliminary Results**

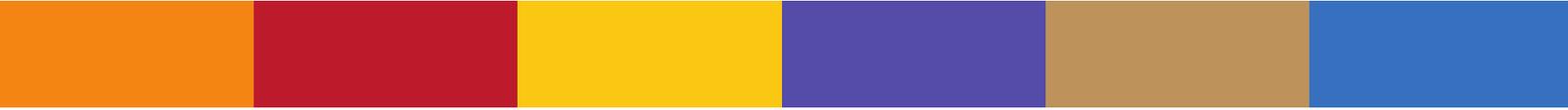
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## Verifying the Validity and Reliability o the *Personality Pattern Inventory*: Preliminary Results

### Introduction

The *Personality Pattern Inventory*® (*PPI*) (Kahler, 1982, 1996) was created to provide information regarding individual choices from which specific communication, interaction, and motivational preferences could be interpreted. The original inventory (Kahler, 1982) had 22 items and was shown to be valid (Kahler, n. d.).

The inventory was revised (Kahler, 1996) into a more robust form. It is the revised form that was the subject of this investigation.

The inventory looks for patterns of responses to determine an individual's Base personality (out of six possibilities) and one's current motivation (called "Phase"). The interpretation of the results allows for the determination of the confidence of Base and Phase determinations. Only those results with confidence levels of 72% or higher were used for this study.

Additionally, in matching results with previous patterns, results that suggested questionable validity (QV) were culled from the sample. The eventual sample included 54,233 subjects (1998-2011), whose identities were anonymous to the researchers. oSample size far exceeded the benchmark deemed "excellent" for stable factor that of  $n = 1,000$  (Gregory, 2011).]

## History

The PPI is the basis for one to access various aspects of the *Process Communication Model*® (PCM) (Kahler, 1982a). Only the Base and Phase concepts of the PCM were the foci of this study.

Base personality reveals one's character traits; personality parts, expanding on ego states (Berne, 1964; Kahler, 1975); channels of communication, an expansion on personality parts (Berne, 1961; Kahler, 1979a); environmental preferences (Kahler, 1979a); and perceptions (Berne, 1972, Kahler, 1982; Ware, 1983).

With historical underpinnings from Karl Jung and Alfred Adler, Berne (1972) described ego states as thoughts and feelings manifested by corresponding patterns of behavior. Ware (1983), a psychiatrist, described thinking, feeling, and behaving as three "doorways" through which a therapist might connect with patients.

Kahler's (1979) concepts of perception envisioned thoughts as being related to facts but also that opinions can color facts to yield beliefs. Feelings are the internal impressions on the senses. External expressions are placed in three categories – those pertaining to outcome-motivated activities (Actions), those pertaining to the external expressions of likes and dislikes (Reactions), and those pertaining to reflective responses to the environment or others (Inactions).

## Approach

Construct validity was selected as the approach in studying how well the Personality Pattern Inventory measures what it is supposed to measure (Anastasi & Urbina, 1997). The notion of validity involves overall soundness (Cronbach, 1990) and plausibility of interpretations (Miller, McIntire, & Lovler, 2011).

Construct validity involves theoretical and psychometric evidence (Anastasi & Urbina, 1997; Miller, McIntire, & Lovler, 2011). In this study, theoretical constructs were Base and Phase personalities (Kahler, 1972, 1982, 1982a, 2004, 2011). Psychometric evidence was provided by factor analysis and Cronbach's alpha (Tavakol & Dennick, 2011).

Two general hypotheses guided the research:

H<sub>1</sub>: There is no relationship between and among the items of the *Personality Pattern Inventory*.

H<sub>2</sub>: There is no consistency of responses between subjects completing the *Personality Pattern Inventory*.

## Instrumentation

The *PPI* uses 42 items to reveal patterns. Nineteen of the items relate to Base, and the remainder relates to Phase determinations, both positive and negative. (Negative Phase is described by the PCM as *distress*, or lack of positive needs fulfillment.)

Each item forces a choice by the subject from six options. A respondent may list from none to six choices in order from highest to lowest preference. The various choices stem from the theoretical underpinnings of the PCM, and the scoring key was provided confidentially to the researchers. (The specifics of the inventory are proprietary and not available publicly.)

## Methodology

Factor analysis served as the principal method of statistical analysis. It included mathematical procedures to identify components (factors) of commonality within instrument responses (Cohen & Swerdlik, 2002). Factor analysis produces a parsimonious description of complex data (Gregory, 2011). Factor analysis allows researchers to determine the unobserved characteristic, which may be influencing the response choices of participants. As an example for this study, the expectation was that individuals who have the same base personality type would select a similar response set to the base questions on the inventory; factor analysis allowed the measure of that expectation.

Two types of factor analyses are generally employed – exploratory factor analysis and confirmatory factor analysis (Cohen & Swerdlik, 2002). Kahler's earlier work in model creation and subsequent validation utilized exploratory factor analysis (Kahler, n.d., 1972, 1982, 2004). This study takes that validation a step further.

Techniques in factor analysis produce findings that are by their very nature conservative.

No amount of statistical analysis can rescue data based on trivial, irrelevant, or haphazard measures. If there is no gold to be found, then none will be found; factor analysis is not alchemy. Factor analysis will yield meaningful results only when the research was meaningful to begin with (Gregory, 2011, pp. 162-163).

Methods involved included not only the statistical analysis of data, but also item analyses of the *Personality Pattern Inventory*. Most of the questions relating to determining one's base personality are couched in choosing one's preference of responses from among six possibilities. Two of the items speculated about other people or positions, as compared to the other items that appeared to be more experiential. These speculative items seemed to interfere with the loading on the various components (factors) and were removed from the analysis.

Since Kahler (2004) had developed the theory of the six personality types for both the base and phase stage, our study used Principal Component Analysis with a six-factor restriction to determine the fit of participant responses to these factors. The researchers employed a Promax with Kaiser Normalization as the rotation method employed since response sets were to the same questions and thus highly correlated. Since the researchers were given the responses based on the theoretical underpinnings, the methods were arranged to distribute the loading across the components. Factor loadings of .300 or higher were used to distinguish one component from another. Higher factor loadings show how well a question fits within the personality type.

## Results

### Validity

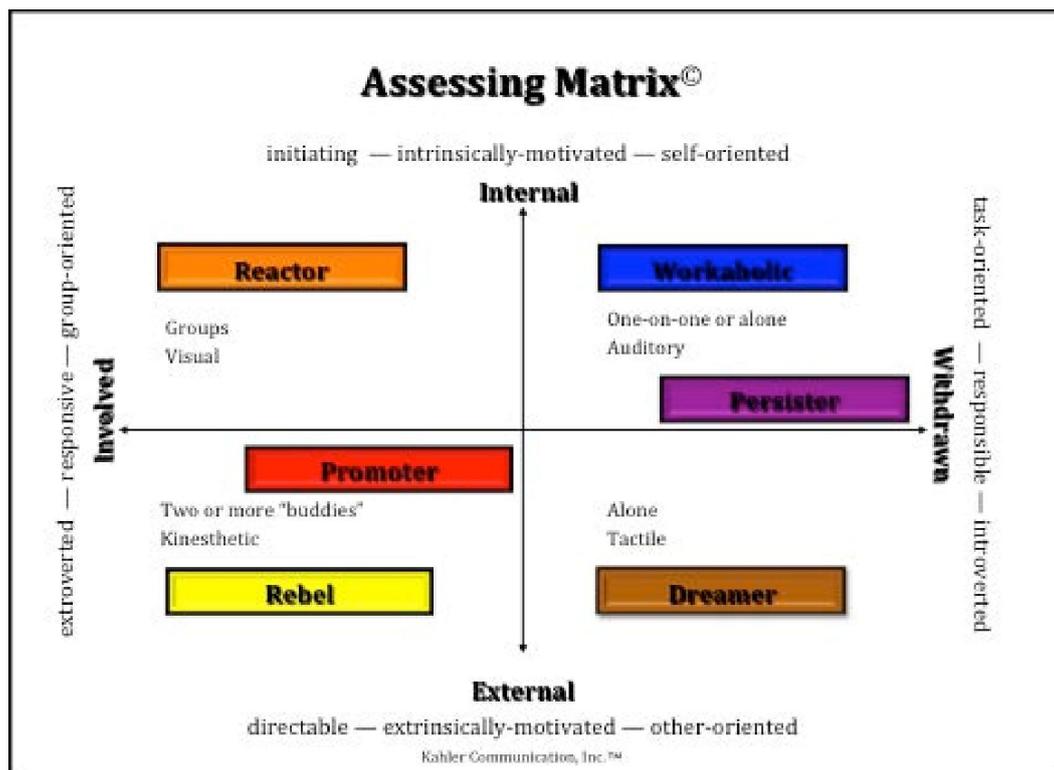
**Base.** Seventeen of the 19 items that related to Base showed five distinct components. The confidence level for valid Base results was 76%, yielding 41,649 subjects. The table below shows the number of items and load ranges for each distinguishable component:

Reactor	16	.329-.685
Workaholic	14	.436-.630

Persister	13	.323-.607
Rebel	12	.374-.586
Dreamer	11	.302-.590

One component had no distinguishable pattern in the target range, nor was there a component that clearly related to the Promoter personality. However, seven Promoter items loaded in the target range (.322-496) on the predominantly Rebel component. One speculation may be the issue of primacy – that is, Promoters are action-oriented and geared to completing tasks quickly and easily. It might be that subjects who were potentially Promoters might have chosen the first response that suited them without reading through all of the choices. Further, there was no information as to the possible percentage of Base Promoters in the sample. General *PPI* demographics suggest that there are 5% Base Promoters in the general population.

**Phase.** The determination of Phase is knottier, since Phase speaks to motivation, both positive and negative (lack of positive fulfillment of needs). In the PCM, each of the personality types distributed into four quadrants of an Assessing Matrix, with one axis going from involved to withdrawn, and the other going from internal to external (see figure below.)



Reactors and Dreamers are in quadrants by themselves, while the other four types are paired. An example of the similarities among Workaholics and Persisters is that they both are energized by recognition for their work – Workaholics for work done well and Persisters for work in which they have a strong conviction. Similarly, Rebels

and Promoters are energized by things that stimulate or excite them. Since these motivators are closely related, clear patterns were less obvious when looking at the items that determined Phase and how they loaded on the components.

The confidence level for valid Phase results was 72%; there were 54,233 subjects who fell into this range. An analysis of *all* of the items (23) that related to Phase determination yielded the following distinguishable components, excluding one item that might be re-examined:

Reactor	19	.303-.606
Dreamer	17	.347-.636
Workaholic	11	.367-.579
Persister	9	.301-.469

One component that paired personalities was:

Promoter/Rebel	9/4	.323-.656
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The remaining component did not have a distinguishable pattern.

An analysis of positive Phase items (15) showed some clearer component distinctions:

Reactor	12	.309-.627
Rebel	10	.321-.636
Dreamer	10	.336-.720
Promoter	9	.377-.689

One paired component emerged:

Workaholic/Persister	9/6	.307-.527
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One explanation of the combination is that both Workaholics and Persisters are motivated by recognition of their work. The remaining component did not have a predominant pattern; however, there were three Workaholic items (.677-.805) and four Persister items (.398-.811) that loaded positively on that component. Three of the items were the same.

An analysis of the negative Phase items (8) showed the following distinguishable patterns, although two components had only three items that loaded >.300:

Reactor	8	.402-.689
Dreamer	8	.429-.656
Persister	8	.308-.507
Promoter	3	.584-.684
Workaholic	3	.476-.558

One paired component emerged:

Rebel/Promoter	8/5	.318-.591
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## Reliability

The internal consistency of the *PPI* was analyzed using Cronbach's Alpha, describing the extent to which all the items in a test measure the same concept or construct and, hence, it is connected to the inter-relatedness of the items within the test (Tavakol & Dennick, 2011). The coefficients for Base and Phase items appear in the table below.

<i>Factor</i>	<i>Base</i>	<i>Phase</i>
Reactor	0.85	0.81

Workaholic	0.82	0.75
Persister	0.79	0.74
Rebel	0.76	0.78
Promoter	0.68	0.73
Dreamer	0.66	0.79

The strongest reliability was shown with both Reactor Base and Phase aspects of the *PPI*. Since 0.70 is the usual target for confidence, Base Dreamer and Promoter responses might be re-examined for wording and placement in the inventory, especially as primacy might explain the way in which Promoters are likely to respond.

## Discussion

The original *PPI* was based on Kahler's original research (1972) regarding miniscripts, extended to the development of the Process Communication Model. The first iteration contained 22 items. The basis for the current analysis was the expanded version, which contained 42 items scored to determine Base (perception) and Phase (motivation) designations of respondents. Items that appeared more speculative than experiential were excluded from examining validity and reliability.

Using >.300 as the threshold, five Base components (factors) emerged clearly. A sixth loading did not reveal a clear pattern. Also, there was no clear Base pattern for the Promoter personality.

In examining the Phase items, all (23), positive (15), and negative (9), five patterns were seen. With each analysis, there was also one grouping that combined both Rebel and Promoter responses, with Rebel responses predominating.

The internal consistency was verified for 10 of 12 possibilities, using 0.70 as the threshold. The Base results for Dreamer and Promoter were slightly below the target.

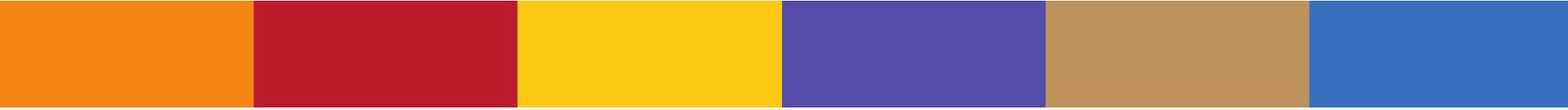
The conclusions are that the expanded version of the *PPI* is both valid and reliable. There are some items that might be re-examined and considered for revision or elimination. "Although confirming evidence contributes to a judgment that the test is indeed a valid measure of some construct, contrary evidence – on the bright side – provides a stimulus for the discovery of new facets of the construct or alternative ways to measure it" (Cohen & Swerdlik, 2002, p. 173).

The guiding hypotheses were both rejected. The conclusions are:

- There were relationships between and among the items of the *Personality Pattern Inventory* that yielded five clear grouping of items.
- There was reliable consistency of responses among the sample subjects who completed the *Personality Pattern Inventory*.

## Implications

Beyond the findings of Kahler's (n.d.) original validation studies, training evaluations have verified the accuracy of the *Personality Pattern Inventory*. Consistent responses from inventory completers confirm the accuracy of the profiles generated from the responses as 8.7 on a 10-point scale (T. Kahler, personal communication,



August 16, 2012). In that sense, both developers and users have played a legitimate role in instrument validation (Cohen & Swerdlik, 2002). The purpose of this study was to provide current, empirical data on the validity and reliability of the expanded PPI now in use. Therefore, both aspects of the study were fulfilled – the PPI is both valid and reliable.

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