(2017) A Closer Look at the Test of Personal Intelligence
Presentation

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Overview

Personal intelligence is the capacity to reason about personality and personality-related information. To understand more about the structure of the mental abilities involved in personal intelligence, we fit several factor models to an ability-based test of personal intelligence. A two-factor model of personality intelligence suggests that there are broad intelligences and specific skills at the lower level (Gardner, 1983).

Intra Psychopathological symptom checklists

A measure of the Big b.

c. meet a goal of excellence
d. socialize

The test-taker who answers this item correctly (alternative “d”) must assess the given behaviors and extract from them the most likely motive.

Overview of Studies

We tested several factor models of PI by examining item-level responses to the 93-item TOPI 1.4 from two independent samples (Studies 1 and 2), and then created factor-based scales to represent them. We also reanalyzed data from an earlier study (Mayer, Panter & Caruso, 2012) to assess the new tests correlations with criteria (Study 3).

Hypotheses

Our key hypotheses were that:

1. We could fit a factor model to the test.
2. The factors would be interpretable.
3. The resulting factor scales would be reliable.
4. The scales and their composite would correlate with important criteria.

Methods

Participants

Participants were drawn from three archival samples:

Study 1. 10,318 test-takers drawn from seven samples, mostly from the United States Military, divided into Exploratory (odd-numbered) and Cross-Check (even-numbered) participant subsamples

Study 2. An independent sample of 8,459 military personnel

Study 3. A reanalysis of a sample of 384 test-takers from Mayer, Panter & Caruso, 2012

Measures

The 93-item Test of Personal Intelligence (Version 1.4) described earlier

Assorted criterion scales in Study 3, including:

- A measure of the Big Five
- Psychological mindedness
- Psychopathological symptom checklists
- The Mayer-Salovey-Caruso Emotional Intelligence Test
- The Reading the Mind in the Eyes Test (a measure of interpersonal sensitivity), and
- An estimate of g (a vocabulary measure)

Results

Could a Factor Model be Fit to the Test?

We began fitting models by conducting a series of exploratory factor analyses. The 2-factor model exhibited the best fit in the exploratory analysis (Table 1) and appeared interpretable.

Overview of the TOPI Test

The Test of Personal Intelligence Version 1.4 (TOPI 1.4) is an ability-based test developed to measure individuals’ levels of personal intelligence (Mayer, Panter & Caruso, 2012; Mayer & Skimmin, 2017). The test items fall within one of four areas of problem solving just described. A sample item asks:

If a person wants to be with one or more people, talk to them, go out with them, and have a good time, the person is likely going to:

a. be in love
b. express warmth toward someone
c. meet a goal of excellence
d. socialize

Were the New Scales Predictive of Criteria?

In a further analysis, these two factor scales and their composite exhibited significant relations with g (as a broad intelligences ought to) as well as other relations with criteria comparable to those of the original scale (see Table 3).

Discussion and Conclusions

The present research enhances our understanding of the mental abilities underlying personal intelligence. The theory already had specified four key areas of problem solving that help to identify relevant test items to use in measurement:

a. recognizing personality-relevant information
b. forming mental models of personality
c. guiding choices with such information, and
d. systematizing plans and goals

Using that division to develop our test-items, we then fit a factor model that concluded that there existed two mental abilities people used to solve such problems: one focused on recognizing the consistencies in personality, and the other more focused on analyzing dynamic and sometimes inconsistent information about a person and making sense of it. The two classifications are depicted together in Figure 2.

Key Sources