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TruTalent™ Intelligences

Statistical Analysis

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Introduction

TruTalent™ Intelligences is a multiple intelligences self-assessment and report for individuals to identify their intelligence profile and receive a personalized report that helps them use their strengths, work with their challenge areas, and be more successful.

Howard Gardner, developmental psychologist and founder of multiple intelligences theory, had the following to say: "In any workplace now there are many different roles and there are many different ways in which people can fulfill those roles. And here's where the idea of Multiple Intelligence is very helpful, because indeed some of the intelligences are quite cognitive, like linguistic and logical and mathematical. Others have to do with how you deal with other people – interpersonal intelligence. And of course some of the intelligences are very much tied to the nature of the work. If you're in advertising, your musical intelligence or spatial intelligence are going to be very important because those are the media you use.

If I'm in a position of decision-making in the workplace, one of the things I would ask is in what way can this notion of Multiple Intelligences be helpful to me? One way is just getting to know the employees better. And to think about opportunities either at the workplace or extracurricular things outside of the workplace, which would be things that the person would like to do and enjoy doing.

People move if they don't feel engaged. And there are many, many ways to engage people and it's best if the work itself engages you. But it's certainly better if you're engaged by the workplace, the people who are there, the water cooler, and the opportunities than if you're just seen as being smart or not so smart, which would be the pre-MI way of thinking of things.

Another thing is putting together teams. And I would use myself as an example. I put together research teams and I used to look for people who were just like me. And after a while, I thought, "That's kind of stupid. One of me is enough." And now I try to put together teams with students who are colleagues where they have complementary kinds of intelligences. And there's huge amounts of evidence from other researchers that problems are more likely to be solved if you put together people who have different expertise rather than just putting together every person looking the same.

When it comes to leaders of organizations, they not only need to have some blend of intelligences themselves, but it's very, very important for them to realize that not everybody who they work with is going to think the same way. And the more they can pluralize their messages, present them in different kinds of ways to make use of other people who have other kinds of intelligences, the better." (2015).

Assessment

The TruTalent Intelligences assessment is comprised of 54 survey-style questions. Each question offers seven possible responses, ranging from not at all (1) to completely (7) and assigned a point value accordingly. Six questions correspond to each intelligence, meaning that each intelligence can receive a raw score from six to 42.

Sample Descriptives

- Total number of assessments administered: 2,286
- 1,029 (45%) male
- 1,257 (55%) female

Distribution and Normalization

Intelligence	Number of Questions	Question Value	Total Raw Score	Low Rank	Mid-Range Rank	High Rank
Bodily-Kinesthetic	6	1-7	6-42	6-22	23-33	34-42
Interpersonal	6	1-7	6-42	6-27	28-35	36-42
Intrapersonal	6	1-7	6-42	6-28	29-35	36-42
Linguistic	6	1-7	6-42	6-25	26-33	34-42
Logical-Mathematical	6	1-7	6-42	6-23	24-33	34-42
Musical	6	1-7	6-42	6-21	22-33	34-42
Naturalist	6	1-7	6-42	6-21	22-29	30-42
Spatial	6	1-7	6-42	6-24	25-31	32-42

The rank scores in the table above were determined based on the normalization of data collected from a test group of 830 individuals. Aggregated results from the test groups were used to determine cutoffs at the 25th and 75th percentiles. Low rank is at or below the 25th percentile. Mid-range is between the 75th percentile and 25th percentile. High rank is above the 75th percentile.

Note: Within the TruTalent Intelligences report, individuals and professionals see the terms “strengths” for high rank intelligences and “challenges” for low rank intelligences.

<i>Reliability and Validity Testing Intelligence</i>	Internal consistency (Chronbach’s alpha)	Standard Error of Measurement
Bodily-Kinesthetic	.81	1.98
Existential	.73	2.19
Interpersonal	.74	1.75
Intrapersonal	.79	1.61
Linguistic	.76	1.97
Logical-Mathematical	.80	2.04
Musical	.84	2.19
Naturalist	.69	2.35
Spatial	.67	2.14

Covariance

The covariance of each intelligence as measured by *TruTalent Intelligences* is shown below. Some intelligence pairs had relatively high covariance for separate constructs. However, the fact that all pairs had some level of positive covariance, the majority of the covariance are between 0.2 to 0.4, and the specific pairs which show highest covariance are all consistent with multiple intelligences theory. The values support the theory of nine intelligences as separate constructs.

Intelligence pairs that showed covariance above 0.45 are:

1. Bodily-Kinesthetic and Spatial: 0.502
2. Spatial and Logical-Mathematical: 0.492
3. Interpersonal and Intrapersonal: 0.561
4. Interpersonal and Existential: 0.488
5. Naturalist and Existential: 0.453

Covariance Matrix

	Bodily-Kinesthetic	Spatial	Linguistic	Logical-Mathematical	Musical	Interpersonal	Intrapersonal	Naturalist	Existential
Bodily-Kinesthetic	1	0.502	0.228	0.356	0.286	0.396	0.362	0.269	0.291
Spatial	0.502	1	0.340	0.492	0.351	0.386	0.347	0.419	0.359
Linguistic	0.228	0.340	1	0.201	0.304	0.411	0.401	0.321	0.448
Logical-Mathematical	0.356	0.492	0.201	1	0.177	0.176	0.226	0.202	0.181
Musical	0.286	0.351	0.304	0.177	1	0.321	0.149	0.219	0.262
Interpersonal	0.396	0.386	0.411	0.176	0.321	1	0.561	0.257	0.488
Intrapersonal	0.362	0.347	0.401	0.226	0.149	0.561	1	0.259	0.433
Naturalist	0.269	0.419	0.321	0.202	0.219	0.257	0.259	1	0.453
Existential	0.291	0.359	0.448	0.181	0.262	0.488	0.433	0.453	1

Validity

We've used a few different instruments for comparison:

1. **The Wonderlic Personnel Test (WPT)** – a measure of global intelligence
2. **The General Aptitude Test Battery (GATB)** - measures 9 abilities or aptitudes. The battery consists of 12 tests and measures general intelligences, verbal aptitude, numerical aptitude, spatial aptitude, form perception, clerical-perception, motor coordination, finger dexterity, and manual dexterity.
3. **The Bar-On EQi** – for measures of emotional intelligence. This is a self-report and is more in line with TruTalent Intelligences. The correlations below for Bar-On with TruTalent Intelligences are from the paper version of TruTalent Intelligences.

Correlations

<i>TruTalent Intelligences</i>	Comparison Instrument	r
Linguistic	GATB Verbal	.55
Logical-Mathematical	GATB Numeric	.43
Linguistic + Logical-Mathematical	WPT	.55
Linguistic + Logical-Mathematical	GATB – general aptitude	.51
Interpersonal	Bar-On EQi total	.52
Interpersonal	Bar-On Interpersonal	.67
Intrapersonal	Bar-On EQi total	.52
Intrapersonal	Bar-On Intrapersonal	.50
Interpersonal + Intrapersonal	Bar-On EQi total	.59

References

Gardner, Howard. (2015, December 9). Why 'Multiple Intelligence' is a better way to think about having smarts. Retrieved from <http://bigthink.com/videos/howard-gardner-multiple-intelligences-in-the-workplace>

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