VIEW: An Assessment of Problem Solving Style

2010 Technical Update

Donald J. Treffinger
Center for Creative Learning

This update reports the results of additional data collection and analyses for the VIEW Inventory through December 31, 2010.

Descriptive Statistics

The most recent master database for VIEW included 27,548 subjects. Based on 25,342 subjects who provided age data, the mean age is now 37.4 (SD = 13.85; range, 11 - 94). The database includes 13,113 male respondents (47.6%), 14,176 female respondents (51.5%), and 259 respondents (0.9%) who declined to state their gender.

Table 1, below, summarizes several important descriptive statistics for each of VIEW's three dimensions: Orientation to Change (OC), Manner of Processing (MP), and ways of Deciding (WD), based on 23,152 responses.

Table 1: Summary of Descriptive Statistics for VIEW Dimension

Statistic	*OC*	*MP*	*WD*
Mean	74.2	29.3	35.3
Standard Deviation	15.8	9.1	8.4
Median	75.0	29.0	36.0
Mode	72.0	32.0	32.0
Minimum	18.0	8.0	8.0
Maximum	126.0	56.0	56.0
Skewness	-0.2021	0.2178	-0.2017
Kurtosis	0.061	-0.2586	-0.2157
Standard Error of Measure	5.70	3.40	3.36

The correlations of VIEW's dimensions with age or gender are negligible. For age, the correlations are: Orientation to Change, r = -0.06 (n.s.); Manner of Processing, r = 0.001 (n.s.); and, Ways of Deciding, r = -0.04 (n.s.). For gender the correlations are: Orientation to Change, r = 0.13 ($p<.01$); Manner of Processing, r = 0.03 (n.s.); and, Ways of Deciding, r = -0.29 ($p<.01$). The relationship between gender and WD is somewhat stronger, but still accounts for only 10% of the variance; it suggests a slight tendency for female subjects to have a Person-oriented preference and for male subjects to have a Task-oriented preference. This result is similar to findings for other similar inventories in its direction as well as in its modest magnitude.

Intercorrelations Among VIEW's Dimensions

Table 2, on the following page, presents the data regarding the intercorrelations among VIEW's three dimensions.

Table 2: Intercorrelations Among VIEW Dimensions

Variable	*OC*	*MP*	*WD*
OC	1.00	0.10**	0.10**
MP		1.00	0.10**

**=p<.001

Once again, by virtue of the large size of the sample, these correlations attain statistical significance. Keep in mind, however: this indicates that the coefficients obtained are reliably different from zero; it suggests that the relationship reported is not a "chance" result. It does ***not*** indicate that there is a relationship of substantial magnitude or degree between the variables; we must assess the magnitude of the relationship independently. We hold that, while we can be *confident* in the results we obtained, the results indicate relationships between any two of the variables that are generally weak or negligible in magnitude. We believe, therefore, that these data support the conclusion that the three dimensions of problem-solving style assessed by VIEW are independent.

Distribution of Scores: Orientation to Change

Figure 1, at the top of the following page, presents the total distribution of scores for the OC dimension, based on the current master data set (N=27,548). This figure uses a histogram to enable us to inspect the distribution of the subject responses on the OC dimension visually, and helps us to interpret the central tendency and distributions of responses, to clarify the data that were presented numerically in Table 1. The distribution for OC, presented in Figure 1, shows a generally normal 'bell-shaped' curve that is slightly skewed to the right of the scale (or "negatively skewed"). The observed mean of 74.2 and the median of 75 are slightly higher than the theoretical mean of 72 for the scale; the mode for this dimension is 72. (In a "perfectly" normal distribution, the mean, median, and mode would all be identical, and would be 72 for this scale.) The responses on the scale ranged from 18 - 126, which does represent the full range of possible scores for the scale. The standard deviation (SD) is 15.8 and the reliability of this dimension, using Cronbach's Coefficient Alpha, is .87. The standard error of measure (SEM) for OC is 5.70. (Thus, given an observed score, there is a 68.26% probability that the person's true score would be that score ±5.70.)

Distribution of Scores: Manner of Processing

Figure 2, at the bottom of the following page, presents the distribution of responses for the Manner of Processing (MP) dimension of VIEW. For this dimension, the 'bell shape' of the distribution is slightly platykurtic, with a slight positive skew. That is, the distribution is slightly "steeper" than a perfectly normal distribution, and slightly skewed to the left (the External style). The observed mean of 29.3 is slightly lower than the theoretical mean of 32 for the scale, while the median is 29 and the mode is 32; the responses span the entire 8 – 56 point range of the scale. The standard deviation (SD) for this scale is 9.1, and the Cronbach's Alpha reliability is .86. Therefore, the standard error of measure (SEM) for the MP dimension is 3.40. (Thus, given an observed score, there is a 68.26% probability that the person's true score would be that score ±3.40.)

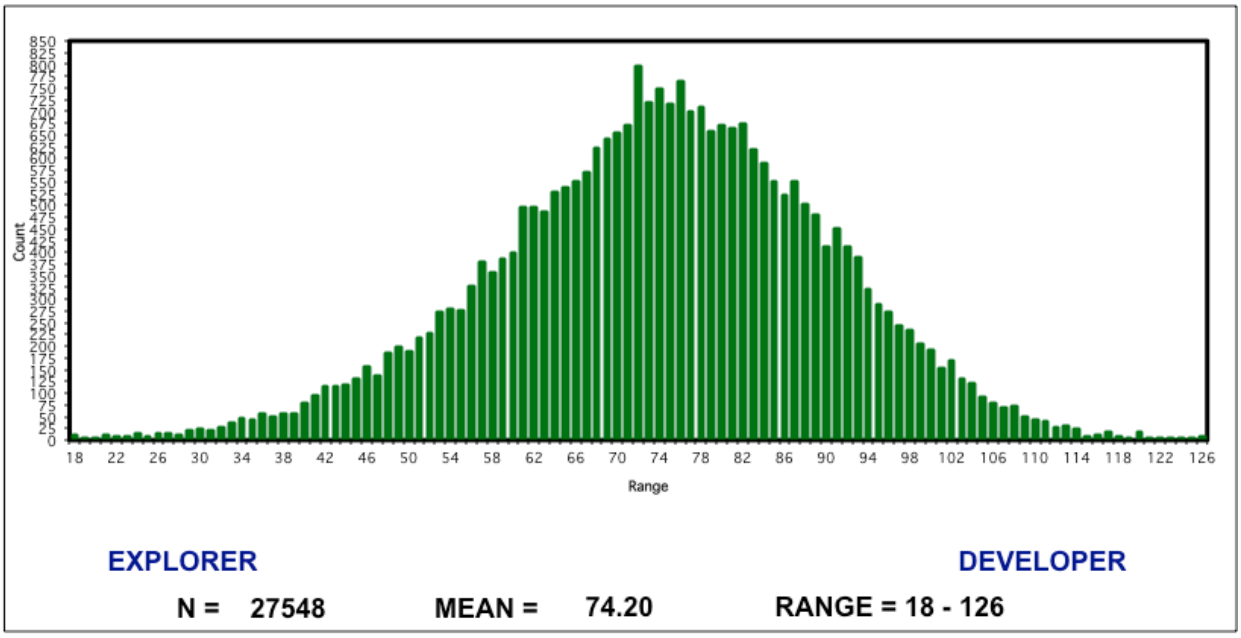

Figure 1: Distribution of Scores for Orientation to Change (OC)

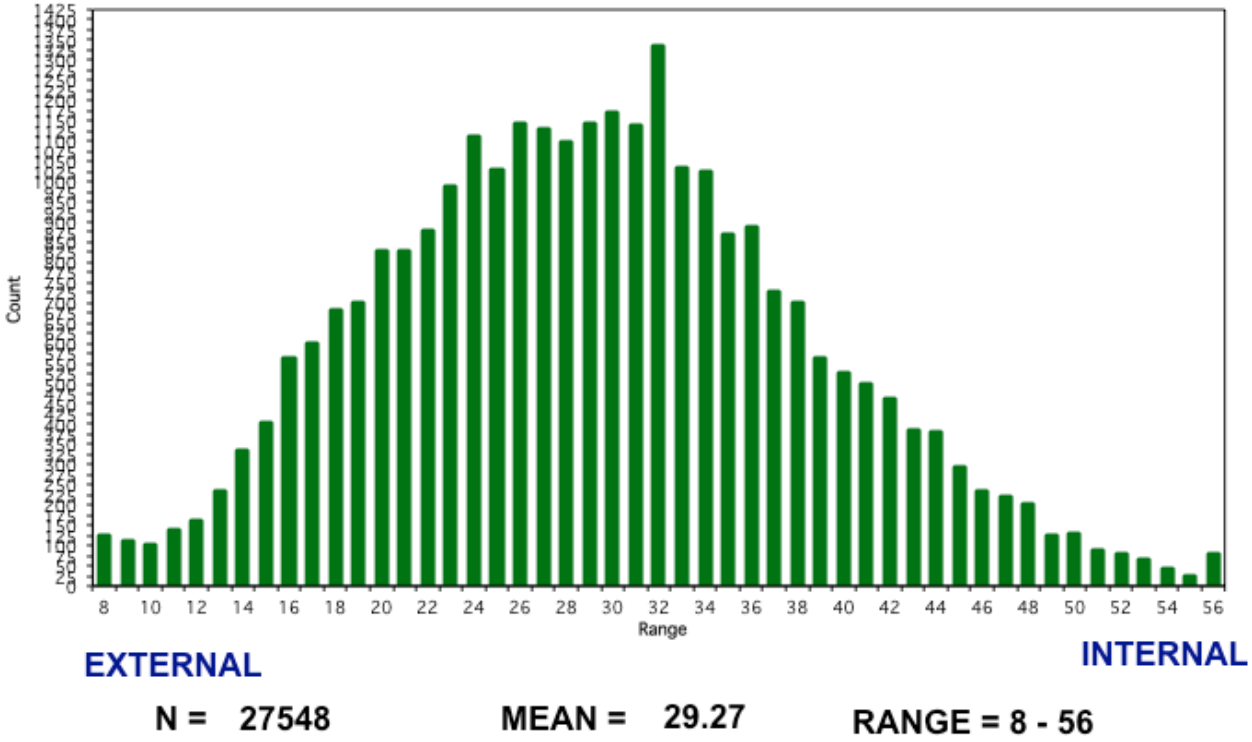

Figure 2: Distribution of Scores for Manner of Processing (MP)

Distribution of Scores: Ways of Deciding

Figure 3, below, presents the distribution of results for the Ways of Deciding (WD) dimension of VIEW. The distribution shown here is generally normal ("mesokurtic"), although slightly negatively skewed i.e., skewed slightly to the right). The observed mean of 35.3 is higher then the theoretical mean of 32 for the scale. The median is 36 and the mode is 32, and, as for the MP scale, the WD responses spanned the entire 8 – 56 point range of the scale. The standard deviation (SD) for this dimension is 8.4, and the Cronbach's Alpha reliability is .84. Therefore, the standard error of measure (SEM) for the WD dimension is 3.36. (Thus, given an observed score, there is a 68.26% probability that the person's true score would be that score ±3.36.)

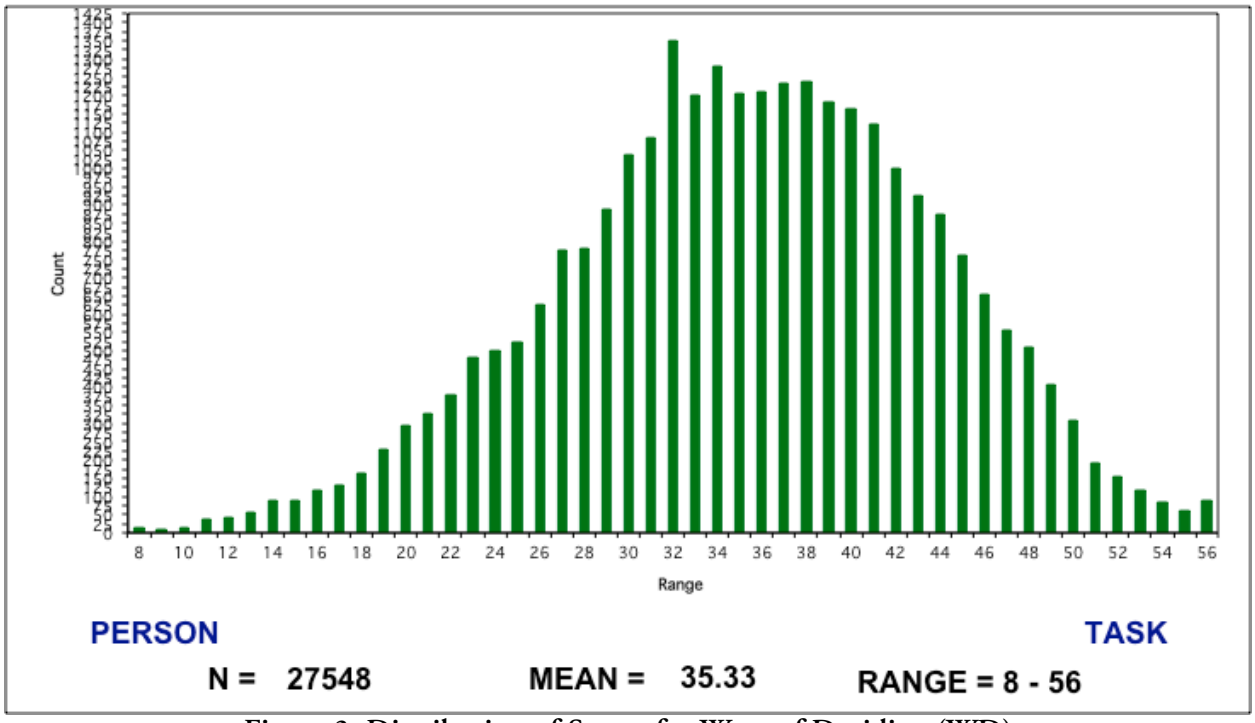

Figure 3: Distribution of Scores for Ways of Deciding (WD)

Distribution of Scores by Interaction of VIEW Dimensions

Figure 4, on the following page, presents the number of subjects in each of the eight categories representing interactions among all three VIEW dimensions, based on the current master database (N = 27,548). As we reported in previous updates, the distribution of scores differs from the pattern that might be expected by chance (i.e., 12.5% of the cases in each of the eight combinations). There is no conceptual reason, however, to believe that the scores would be distributed on a chance or random basis. Despite the fact that the master database contains a large number of subjects, it is nonetheless an accumulation of samples of convenience and opportunity, and therefore, not strictly a random sample of the total population of all adolescents and adults. Therefore, we cannot conclude with certainly that the combinations that seem "over-" or "under-represented" in the distribution reflect greater or smaller incidence of those combinations in the population.

	Explorer		Developer	
	External	Internal	External	Internal
Person	3800 (13.8%)	2508 (9.1%)	3479 (12.6%)	2718 (9.9%)
Task	3814 (13.9%)	2769 (10.1%)	4376 (15.9%)	4084 (14.8%)

Figure 4: Frequency of Scores By Interaction of VIEW Dimensions

Since the previous years' reports, there have been changes in several categories. There are fewer cases in both the Internal Explorer Person- and Task-oriented categories than might be expected by chance (9.1% and 10.1%). Both External and Internal Task-Oriented Developer categories are represented more frequently than might be expected by chance (15.9% and 14.8%), while the Internal, Person-oriented Developer group occurs less often than might be expected by chance (9.9%).

We will continue to monitor these patterns over time and as the opportunities expand to study VIEW in a broader, multi-cultural context. Since 2005, we have introduced Dutch, French, Chinese, Korean, Japanese, and Spanish editions of VIEW (the characteristics of which will be addressed in a separate report, and the data from which are not included in the current master database).

Summary

We believe that the data presented in this Technical Update continues to support the soundness of VIEW as a valid, reliable, and practical tool for assessing problem-solving style. These data will also guide VIEW users in understanding and interpreting VIEW results accurately, and in assisting respondents to understand their results, and the implications of those results for personal and professional effectiveness.

We continue to invite research on VIEW by scholars and practitioners in many disciplines or settings. Visit the VIEW website (http://ViewStyle.net) for information concerning support for research on VIEW.