PsychoGeometrics®
The Science of Behavior + The Art of Communication™

PsychoGeometrics® Research Report

The Concept/Assumptions

In 1978, Dr. Susan Dellinger combined her knowledge of the current personal style analysis tests on the market (MBTI, DISC, Wilson Learning, DrakeBeamMorin) with her doctoral research in the classical Jungian psyche types, left/right brain dominance, and the current interpersonal communication models. The result was the creation of five "communication styles" subsumed within five (5) geometric shapes (square, triangle, rectangle - left-brained; the circle and squiggle – right-brained). Dr. Dellinger defined a series of traits and characteristics associated with each of her 5 communication styles.

Research Period

To validate Dr. Dellinger's assumptions about the shapes styles and their definitions. The following research was completed in 2 phases (Part 1 and Part 2) over a three-year period from 1984 thru 1986.

Methodology

Self-Report. Unless using a multi-rater system, individual style analysis instruments/tests are based on what psychologists call "self-report." Individual results can only reflect how the individual perceives himself/herself during the period of experiencing the test. Results are neither wrong nor right, merely providing some suggestive insight for deeper reflection and growth on one's life journey.

Test Subjects

Dr. Dellinger presented PsychoGeometrics System in public seminars sponsored by CareerTrack Seminars International throughout the United States from 1984 through 1998. Participation in these seminars ranged between 50 and 200 individuals per session, consisting of adults from a wide variety of professions, including business, education, healthcare, and government. Participants represented all social/economic/racial groups. Approximately 60% were female, and 40% were male.

Process (Part 1)

1984-1985 (2,520 participants)
Participants receive an evaluation form before Dr. Dellinger's presentation.
Dr. Dellinger then proceeds to describe the characteristics of each of the Shapes.

After all five Shapes are described, the participants are asked to circle the Shape on their evaluation if it represented them or to put an X through it if it did not. Forms are collected and tabulated.

Process (Part 2)

- Part 1: 1984-1985 (2,520 participants)
- Part 2: 1986 (1,110 participants)

Participants are asked to observe a simple image of the five Shapes and are asked to (quote) "choose the Shape that best describes you as a person." They are then instructed to draw their Shape choice on their evaluation form.

Dr. Dellinger again proceeds to describe the characteristics of each of the Shapes.

After all five Shapes are described, the participants are asked to circle the Shape on their evaluation if it represented them or to put an X through it if it did not. Forms are collected and tabulated.

Part 1 Results

79% of the participants reported that their original Shape choice correctly described them as a person, i.e., validation via Self-Report.

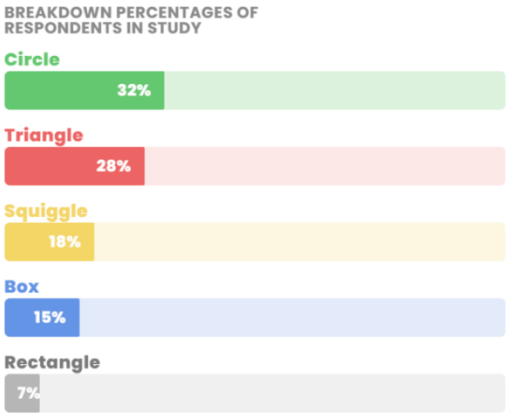
Part 2 Results

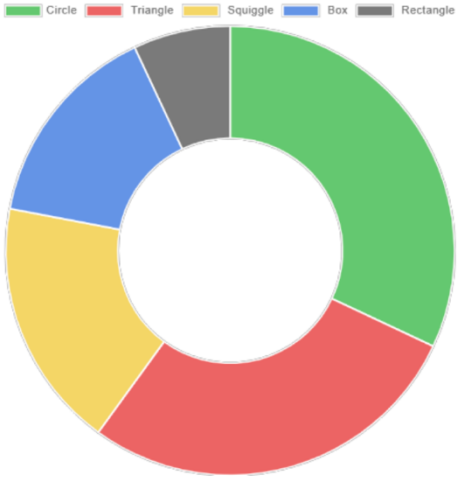
In 1986, participants were asked to identify their 1st and 2nd Shape choices by drawing both (same as #2 above). After Susan's presentation, they were asked if either of their choices accurately described them. 84% reported in the affirmative.

PsychoGeometrics®
The Science of Behavior + The Art of Communication™

Psycho•Geometrics® Online Test/Instrument Research

Research and findings in relation to the applicability and result aspects of using an "online" instrument rather than a physical test or evaluation.





Rationale

In response to the request from many PsychoGeometrics® users, Dr. Dellinger and her colleague, Dr. Jack Wolf, designed a written instrument consisting of 168 questions/items. In 2004, they enlisted the help of a team of graduate students specializing in psychological test and measurement methodologies at the University of California, Santa Cruz, to test the validity and reliability of this instrument.

Concept/Assumptions

In order to establish the face and content validity of the instrument, the 168 questions were grouped into five (5) behavioral factors (introversion, non-conventionality/freedom, relationship orientation, thinking-orientation/control, and self-centeredness/interpersonal authenticity) and measured against five (5) "shape" factors (box, triangle, rectangle, circle, and squiggle).

PsychoGeometrics®
The Science of Behavior + The Art of Communication™

Test Subjects

A sampling of 264 test subjects agreed to participate in the initial testing of the written instrument. Subjects were chosen from the combined address book lists of Dr. Dellinger and Dr. Wolf. The lists were comprised of both personal and professional acquaintances of each author. Of the 743 individuals invited to participate, 35.5% agreed to participate: 68% of participants were female, 32% male.

Process

Participants were asked to take the PsychoGeometrics® test via the Internet. The test administrator, Mr. Steven Bearman, set up a private test site on the Internet where subjects could come to take the test. The results were immediately transferred and reported to a U. of CA collection site. Interpretation of the results was the responsibility of Mr. Bearman and his graduate-level team. Participants were given two months to accomplish the task, which required approximately 20 minutes to complete.

Methodology

Factor analysis to answer the question – when the actual factor model derived from the data is compared with the ideal actor model of the five shape factors, is there a relationship between the two models. Do the behavioral factors correspond well with the shape actors in our ideal model?

Summary Findings

If a question corresponds to only one shape, the ideal correlation is 1.0. The correlations are split equally for two or three shapes, resulting in correlations of 0.5 or 0.33 (rounded down) respectively for each shape-question correlation. If Factor 1 introversion). For instance, closely related to the Circle Factor, we might expect many or most Circle questions to fall under Factor 1 and few questions in any of the other shape categories to fall under Factor 1. As it is, all shapes have between 9 and 16 questions represented in Factor 1. Introversion, the true factor underlying the data, does not correspond exactly with any one shape. While both the Box and Circle Factors correlate positively with some introversion questions, Triangle and Squiggle correlate negatively with others (or positively with extroversion).

Overall, Factor 1 (introversion) does not correspond well with any one shape. However, factor 2 (non- conventionality and freedom) has far more Squiggle Factor questions than any others, with Rectangle Factor matching somewhat well. Factor 3 (relationship orientation) has a decent match with the Circle Factor. Factor 4 (thinking-orientation

and control) has a decent match with Triangle Factor and an okay match with Box Factor. Factor 5 (self-centeredness and interpersonal authenticity) load across all the Shape factors and does not correspond well with any one shape. The best matches are Factor 2-Squiggle, Factor 3- Circle, and Factor 4-Triangle. There is a clear lack of relationship between Circle and Factors 4 and 2 (thinking orientation / control and non-conventionality / freedom), a weak relationship between Squiggle and Factor 4 (thinking orientation and control), and a weak relationship between Rectangle and Factors 3, 4, and 5 (relationship orientation, thinking orientation / control, and self-centeredness / interpersonal authenticity).

Recommendations

These results are optimistic for revising the shape model if such a project is to be embarked upon. It means that at least these three shapes have a medium correspondence with real factors underlying our survey data. It also shows that the questions associated with the shapes need to be reevaluated somewhat if they are to match real factors. It is also important to remember that the five factors in our analysis explain just 29% of the data. In order to improve the model (instrument), we recommend the following: (1) the first step is to drop all variables (questions) which do not correlate well with any factor. These are the questions that fall below the double horizontal line in the first five tables. After dropping these from the results, a second-factor analysis is run to see if a small number of factors now provides increased explanatory power (well above 29%); (2) Alternately, questions can be eliminated which do not support a match between numbered factors and shape factors. Action: Doctors Dellinger and Wolf accepted the findings and recommendations of the Bearman team. A valid and reliable instrument was created to systematically reduce non-correlating variables from 168 to 89 (52.9%).

Explore Future Findings

1) Shape and Color Choice

The Bearman team found only a "slight correlation of statistical significance with a p-value of .631 between shape choice and color choice." Of all colors offered, each shape preferred blue to any other color, with gray being the least chosen color. Therefore, the assignment of colors to shapes (blue box, red triangle, yellow squiggle, green circle, gray rectangle) is determined to be largely arbitrary.

2) Visual Versus Instrument Choice Correlation

The Bearman team found that visual shape choice was, indeed, a good predictor of the objective outcome of the written instrument. The team reported a significant correlation of .345 ($p < .0005$) between respondents' shape choices and their highest-scoring shape on the instrument. Another way of describing the relationship between the two variables is that 12% of the variation in top-scoring shape is explained by shape choice. ("Variation" is the statistical difference between random distributions of answers and actual answers.) Shape choice matches the highest-scoring shape 36.4% percent of the time. If all 5 shape scores are used to predict respondent shape choice, the results are similar ($r = .388$, $p < .0005$).

One exception with minor variance is subjects' tendency to choose the Circle most frequently in the visual test, whereas the Triangle scores highest on the written instrument.