

ABRIDGED REPORT ON THE VALIDITY AND RELIABILITY OF THE NBI

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The research on the NBI to establish the reliability and validity of the instrument is summarized below. A full report is available on request.

Reliability is generally regarded as the consistency with an instrument measures. If the measure is administered and then repeated on the same sample after a period of time, one would expect a high correlation between these two administrations (>0,80). The test-retest reliabilities of the NBI on a sample of 37 respondents were 0,851 (L1), 0,840 (L2), 0,867 (R1) and 0,918 (R2) and thus well within the acceptable range. Another way of investigating reliability is through **internal consistency measures**. These measure the degree to which items “group together” as intended. Usually, values of >0,70 are regarded as acceptable. The values for the NBI were as follows on a sample of 1588 people: 0,6812 (L1), 0,7459 (L2), 0,8209 (R1), 0,7734 (R2). Most values are therefore acceptable, and some items have since been changed to increase internal consistency of the subscales.

Validity of a measure refers to whether the instrument measures the constructs that it purports to measure. Correlations with existing measures in the expected directions, for example, adds to the construct validity evidence of the instrument. The NBI was correlated with the MBTI in two samples. The theoretical expectations in terms of strength and direction of correlations were confirmed. Correlations ranged from 0,20 to 0,70 and where no correlations were expected, the correlations were negligible. This adds to evidence of both convergent and discriminant validity.

Another approach to construct validity is to **compare subgroups** which are expected to differ on the NBI. If they do in fact differ, this adds validity evidence. The subgroups that were compared include males and females, different occupational groups, managers vs. non-managers, and the general population vs. specialized law enforcement officers. It was found that gender groups differ in stereotypical fashion, with males obtaining significantly higher scores on L1 and R1, while females scores higher on L2 and R2 (sample size = 1374). Significant differences were found between individuals in managerial positions and those who are not. Managers scores higher on R1, while non managers scored higher on L2. Managers made significantly more use of Front Brain and Right brain thinking in general, compared to non-managers. Law enforcement officers showed a stronger preference for both left brain quadrants, relative to the general population, but showed a lower preference for R2. Seven occupational groups were compared and differences were found in the expected directions, e.g. stronger preference for left brain quadrants amongst individuals in administrative and analytical positions, a stronger R2 preference amongst the helping professions, and strong R1 preference for individuals in management and strategic positions.

The results obtained seem to give fairly strong support for both the validity and reliability of the NBI. This is a continuous research project and this report will be updated as often as possible.