



# The Detection of Malingered Levels Of Cognitive Impairment On The Nevada Brief Cognitive Assessment Instrument: Toward the Development of Rapid, Quantitative Measures of Feigned Low Intelligence

Robert W. Wildman

## ABSTRACT

A methodology for detecting the downplaying of examinees' cognitive abilities on the Nevada Brief Cognitive Assessment Instrument (NBCAI) is developed, described and validated.

**Key Words:** Malingering, Impression management, Feigned low intelligence, Nevada Brief Cognitive Assessment Instrument (NBCAI)

## INTRODUCTION

The Nevada Brief Cognitive Assessment Instrument (NBCAI) 3. is a 50-item, self-administered matching task which has been used in neuropsychological evaluations (Wildman & McDaniel, 2014). It has been found to have a correlation of .83 with WAIS-III verbal IQ (Brown, Lawson, McDaniel & Wildman, 2012) and may, thus, be considered a measure of IQ and a potential instrument for detecting attempts to present oneself as functioning at a lower level intellectually than is actually the case.

While the NBCAI has already been shown to be useful in detecting negative patient impression management through such procedures as comparing its vocabulary subtest scores with ability to fill out intake forms and communicate during a clinical interview (Wildman, 2010), the present study explores the possibility of developing a quantitative measure of attempts to downplay one's true level of intelligence which is completely internal to the instrument itself.

## METHODS

### Participants

The subjects for this investigation were 123 applicants for Social Security disability benefits seen for evaluation by the author in his office in Reno, Nevada. The first of these individuals was seen on December 8, 2017 and the last on June 4, 2018.

### Procedures

Previous research had identified among patients making a good-faith effort on the NBCAI the 20 least-missed items: 1,2,3, 12, 15, 20, 21, 23, 24, 28, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40.

1. Appreciation is expressed to Dr. William F. McDaniel for his review and suggestions relating to this report.
2. The NBCAI is available for unlimited clinical and research use without charge. It is reproduced in the Brown et al. (2012) report and is also available from this author who will also provide a test manual for the instrument.

The author sorted the subjects into three categories, mostly based on the external indices described earlier in this report: 1) those clearly making a good-faith effort on the instrument, 2) those making a minimal effort or “staying within their comfort zone” and 3) those believed to be downplaying their abilities/attempting to malingering a low level of intelligence. Examinees in category 2 were discarded from the data analysis as not contributing a clear picture to the phenomenon under investigation, leaving 93 subjects in category 1 and 30 in category 3.

Since an obvious artifact in such a study relates to the fact that those people making a good-faith effort on the NBCAI would be expected to obtain higher scores than those who are downplaying their abilities, it was decided to be inappropriate to include in the data analysis all members of category 1. In fact, 26 of the first 30 good-faith patients obtained perfect scores on the NBCAI. Instead, the 30 members of category 1 who obtained the lowest scores were compared with the 30 subjects in category 3.

### **Ratio utilized in the ultimate data analysis**

An a priori prediction was made that an index of the ratio of the number of missed items on a profile that came from the 20 least frequently answered incorrectly items as a proportion of total misses would help in the identification of those examinees who are attempting to conceal their true intellectual abilities. The resulting ratios, of course, could range from .000 to indicate that none of the easiest items were answered incorrectly to 1.000, obviously meaning that all of the missed items on that profile came from the 20 easiest.

## **RESULTS**

The 30 subjects in category 1, those believed to have been making a good-faith effort, obtained scores ranging from 7 to 43 (mean = 33.93, median = 39, sd = 9.853). Scores for the 30 participants in category 3, those believed to have been extending themselves considerably less than would have represented a maximal effort, ranged from 3 to 31 (mean = 14.600, median = 12, sd = 7.944 ).

For group 1, the range of the ratios of the 20 easiest items missed to total misses ranged from .000 to .302 (mean = .095, median = .100 sd = .101). The comparable figures for category 3 subjects were .000 to .413 (mean = .266, median = .279, sd = .112). The resulting *t* of 1.04 is not significant.

Despite the lack of significance between the ratio means of these two groups, if one sets a cut-off score of .125, predicting that all subjects scoring over that ratio are attempting to hide their true level of intellectual functioning and all those scoring .125 and lower are honest responders, one would be correct in the identification of 20 of the 30 (67%) good-faith subjects and with 26 of the 30 (87%) individuals believed to be downplaying their abilities. This cut-off, therefore, produces an overall “hit rate” (Wildman & Wildman, 1975) of 77%.

This hit rate of 77%, when compared to an expected chance hit rate of 50% (15 subjects in each cell) in the four cells of good-faith effort looking honest and looking faked and faking bad looking honest and appearing to be faking bad, produces a Chi Square of 19.463, which with 3 degrees of freedom is significant at well beyond the .01 level.

## **CONCLUSIONS**

These results clearly document the ability to develop a measure of negative impression management which is entirely internal to the NBCAI. Such an index can be important in the conduct of neuropsychological evaluations in that Wildman and McDaniel (2014) found that virtually all of the patients who scored at the lowest levels on both the Saint Louis University

Mental Status Examination and the NBCAI were diagnosed with serious CNS dysfunction. It should also be possible to develop corresponding measures of downplaying one's abilities using other instruments.

An advantage of employing this methodology over other malingering-detection schemes, such as the Structured Inventory of Malingered Symptoms (Widows & Smith, 2007), is that the present impression management detection device can be an integral part of the evaluation process itself. This is particularly important in that typically additional testing to rule out malingering/negative impression management is not authorized in referrals for disability evaluations.

It seems to the present writer that a 20 easy items/total misses ratio, as well as other NBCAI-based malingering detection schemes which might be developed in the future, should be regarded as supportive evidence for a conclusion of downplaying one's abilities and never used as a definitive answer to the question of whether negative impression management is operative in any individual case.

An obvious limitation of this report is that all of the ratings and decisions were made by just one psychologist, a weakness which should, of course, be corrected in future research.

## References

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