

## T.O.V.A.™ Symptom Exaggeration Index

**Background:** Across two published studies (Leark, Dixon & Huynh, 2002; Henry, 2005) and in a recent juried presentation at a national meeting (Hughes, Leark, Henry, et al., 2008), the T.O.V.A. Symptom Exaggeration Index (SEI™) has been developed and refined. It is now available for use with T.O.V.A version 7.3 in the form of this Symptom Exaggeration Index Worksheet, and will be integrated into the T.O.V.A. report in the future.

The T.O.V.A. SEI is based on findings that, under conditions of symptom exaggeration, “fake bad” performance is characterized by response patterns that are not characteristic of any clinical disorder, and by failure to show “internal consistency” in the subject’s reaction time scores across response types.

The T.O.V.A. SEI was developed in studies examining performance in college students (Leark et al., 2002) and in personal injury litigants (Henry, 2005). The index was refined to incorporate within-subject reaction times differences in a reanalysis of data available from the Leark and Henry studies (Hughes et al., 2008). Because reaction times reflect differing degrees of cognitive processing, it is likely that these components of the model are highly resistant to coaching and add unique power to the T.O.V.A. SEI. More information on the development of the T.O.V.A. SEI can be found in Hughes et al. (2008).

**Application: The T.O.V.A. SEI is for use with the Visual T.O.V.A. only.** Because the SEI was developed in adults, it should not be used as a measure of symptom exaggeration in pediatric patients. No statement regarding systematic response bias should be made in use with pediatric groups unless a general pattern of exaggeration is seen on additional Symptom Exaggeration measures.

No single indicator of symptom exaggeration is perfect, and we recommend that the TOVA SEI be used with other measures designed to identify symptom exaggeration and establish the presence of symptom over-reporting.

### References

Henry, G. (2005). Probably malingering and performance on the Test of Variables of Attention. *The Clinical Neuropsychologist*, 19:1, 121-129.

Leark, R. A., Dixon, E., Hoffman, T., Huynh, D. (2001). Fake bad test response bias effects on the Test of Variables of Attention. *Archives of Clinical Neuropsychology*, 17, 335-342.

Hughes, S.J., Leark, R.A., Henry, G., K., Robertson, E.L., Greenberg, L.M. (2008, June). Using the Test of Variables of Attention to detect deliberate poor performance in the assessment of attention. Poster presented at the annual meeting of the American Academy of Clinical Neuropsychology, Boston, MA.

### Worksheet:

Is the subject over age 17? \_\_\_Yes \_\_\_No. *If yes, proceed.*

1. Is the Total Standard Score for Omission Errors or Commission Errors < 45? \_\_\_Yes  
(*Total standard score column, rows 4 & 5 on T.O.V.A. Report, Form 3*)
2. Is the RAW SCORE for Total Response Time Variability >= 180 milliseconds? \_\_\_Yes  
(*First row, last column in the Tabulated Raw Data table on T.O.V.A. Report Form 5*)
3. Is the RAW SCORE for Total Response Time >= RAW SCORE for Total Post-commission Response Time? \_\_\_Yes  
(*Total column: Row 2; Post-Commission RT: Second number in row 9. Tabulated Raw Data table on Form 5*)

**Total number of “Yes” responses** \_\_\_

**Interpretation:** As noted above, the T.O.V.A. SEI is based on the presence of conditions that are not characteristic of clinical disorder, and by the lack of internal consistency in reaction time across specific response conditions. Because not all of these conditions are present in all cases of symptom exaggeration, the T.O.V.A SEI is based on a score derived by adding one point for each condition.

A T.O.V.A. SEI score of 0-1 can be considered **“no evidence of symptom exaggeration.”**

A T.O.V.A. SEI score of 2 can be considered **“some evidence of possible symptom exaggeration.”**

A T.O.V.A. SEI score of 3 can be considered **“strong evidence of possible symptom exaggeration.”**