Daniel Baldini, Talamahe'a A. Tupou, Julius Flowers, Ashlynn Steinbaugh, Bradley R. Forbes, Michael Ellis-Stockley, Rachel Murley, Rayna B. Hirst
Palo Alto University, Palo Alto, CA, USA

Objective: The Test of Memory Malingering (TOMM) is a performance validity test (PVT) that aims to assess whether participants are giving adequate effort to perform well on tasks of memory performance (Tombaugh, 1996). Other PVTs, specifically the Forced Choice Recognition Trial in the California Verbal Learning Test, have shown that even single errors may indicate invalid performance (Erdodi et al., 2018). Finally, youth are often understudied in the PVT literature, and athletes are at increased risk of invalid performance on baseline testing due to many wanting to return to play following concussion (Erdal, 2012). Therefore, the objective of the current study is to examine whether single errors on TOMM Trial 1 are indicative of lower, and possibly invalid, cognitive performance in a youth sample, given that cognitive performance declines with even small decreases in effort (Green, 2007).
Participants and Methods: Healthy youth athletes (n=174) aged 8-16 years (M=12.07) completed the TOMM as well as other neuropsychological measures during baseline neuropsychological evaluation in a clinical research program for sports concussion. Independent samples t-tests compared youth athletes who scored 49 points on the TOMM (n=28) to youth athletes who scored a perfect 50 (n=50) across several groupings of neuropsychological measures. Participants who scored less than 49 or who didn't complete the TOMM were excluded from the analyses.
Results: Participants scoring 50/50 on TOMM Trial 1 scored significantly higher on Stroop Color Naming task (p=0.036), Verbal Learning Delayed task from the second edition of the Wide Range Assessment of Learning and Memory (WRAML-2, p=0.018), and Letter Number Sequencing task from the Weschler Intelligence Scale for Children (WISC-IV, p=0.025), relative to participants scoring 49/50. Though not statistically significant, results also showed a trend toward participants scoring 50/50 scoring higher on nearly every test in the battery.
Conclusions: Participants with a single error on TOMM Trial 1, as compared to participants with a perfect score, performed significantly worse on a processing speed task, a verbal learning task, and a working memory task as part of a comprehensive neuropsychological battery. The single-error group also trended toward scoring lower on nearly all of the remaining attention, processing speed, perceptual ability, memory, and executive functioning tasks in the battery. The results could lead to a more liberal interpretation of TOMM scores, given that the trend towards lower performance may be due to putting forth significantly less effort. These results point to the need for a similar comparison of the TOMM in a larger sample size, as greater power may reveal even more significant differences in performance. Findings also emphasize the importance of viewing performance validity on a continuum rather than as a dichotomous pass/fail. Understanding the TOMM and how single errors may be indicative of poorer performance in a youth sample could help to reframe the way PVT results are interpreted in clinical and forensic settings.

---

83 Performance Validity in a Monolingual and Bilingual Undergraduate Population

Daniel W. Lopez-Hernandez[1,2], Krissy E. Smith[3,2], Kyle B. Boone[2], Tara L. Victor[3]
[1]University of California San Diego Health, San Diego, California, USA. [2]The Lundquist Institute, Torrance, California, USA. [3]California State University Dominguez Hills, Carson, California, USA

Objective: Neuropsychological evaluations are used to examine a person's current cognitive functioning. Performance validity tests (PVT) are included in neuropsychological test batteries to ensure that examinees are performing to the best of their abilities and identify non-credible performance. There are two types of PVTs: freestanding and embedded. A freestanding PVT is a cognitive test created to evaluate performance validity and do not measure any

type of cognition directly. Meanwhile, an embedded PVT is a task design to evaluate some sort of cognition (e.g., memory) by using traditional neuropsychological tests (e.g., Trail Making Test) and performance validity. Research suggests that undergraduate college students are not always performing to the best of their abilities when completing a comprehensive neuropsychological battery. In fact, in one study where an undergraduate college sample was given three PVTs, it was reported that 56% of the participants failed at least one PVT in their first session and 31% in their second session. Research has also shown that speaking multiple languages can influence cognition. The purpose of this study was to identify in three credible language groups of college students what PVTs does bilingualism influence higher failure rates. It was predicted that bilingual college students would significantly demonstrate higher PVTs failure rates compared to monolingual college students.

Participants and Methods: The sample consisted of 70 English first language monolinguals (EFLM), 33 English first language bilinguals (EFLB), and 68 English second language bilinguals (ESLB) that were psychologically and neurologically healthy. All participants completed a comprehensive neuropsychological battery in English. The Rey-Osterrith complex figure copy test, Comalli Stroop part A, B, and C, Trail Making Test part A and B, Symbol Digit Modalities Test written and oral parts, Controlled Oral Word Association Test (COWAT) letter fluency, and Finger Tapping Test were the tasks used as embedded PVTs to evaluate failure rates in our sample. Moreover, all participants were credible (i.e., they did not fail two or more PVTs). PVT cutoff scores were selected for each embedded PVT from previous literature. Chi-square analysis were used to evaluate failure rates between language groups on each PVT.

Results: We found no significant failure rate differences between language groups on any of the PVTs. However, while no significant group differences were found, on the COWAT letter fluency results revealed higher failure rates between the three language groups (i.e., 13% EFLM, 24% EFLB, and 22% ESLB) compared to other PVTs.

Conclusions: Our data suggested no significant failure rate differences between language groups. It has been suggested in previous studies that linguistic factors impact PVT performance and test interpretation. On the

COWAT letter fluency task, it is possible that language is driving higher failure rates between bilingual speakers, even though we found no significant failure rates or performance differences between the three language groups. Future studies should examine language groups and other cultural variables (e.g., time perspective) to determine what may be driving high failure rates on the COWAT letter fluency task in credible participants.

---

84 Using a Combination Score from the Full Rey Complex Figure Test (RCFT) as a Performance Validity Measure (PVT)

Jessica M. Fett[1], Timothy J. Arentsen[1,2], Brad L. Roper[1,2]
[1]Memphis VA Medical Center, Memphis, TN, USA. [2]University of Tennessee Health Science Center, Memphis, TN, USA

Objective: Some RCFT indices are effective Performance Validity Test (PVTs) during neuropsychological evaluations. A combination score that includes the copy score, true positive recognition, and atypical errors has proven to be especially useful (see Lu et al, 2003). However, this score was derived from administration that deviated from protocols outlined by Meyers & Meyers (1995) in that the Recognition trial was administered after the 3-minute delay instead of the 30-minute delay. The current study examined the utility of the RCFT combination score as a performance validity test (PVT) when completing the recognition trial after the 30-minute delay.

Participants and Methods: This study utilized archival data from 298 Veterans who presented for a clinical neuropsychological evaluation at a southern Veterans Affairs Medical Center. The evaluation included up to nine PVTs and all trials of the RCFT (per Meyers & Meyers,