



ALFA International
THE GLOBAL LEGAL NETWORK

Brain Games—Mastering the Role Neuropsychological Testing Can Play in Mild Traumatic Brain Injury Litigation

February 20, 2024



PRESENTERS



Brooke Churchman
HALL & EVANS, LLC
Denver, CO, USA
E: churchmanb@hallevans.com
T: (303) 628-3300



Jay Skolaut
HINKLE LAW FIRM LLC
Wichita, KS, USA
E: jskolaut@hinklaw.com
T: (316) 267-2000



Kyle Boone, Ph.D., ABPP-ABCN
Clinical Neuropsychologist
PRIVATE PRACTICE
Torrance, CA, USA
E: kboone@kyleboonephd.com
T: (310) 375-5740

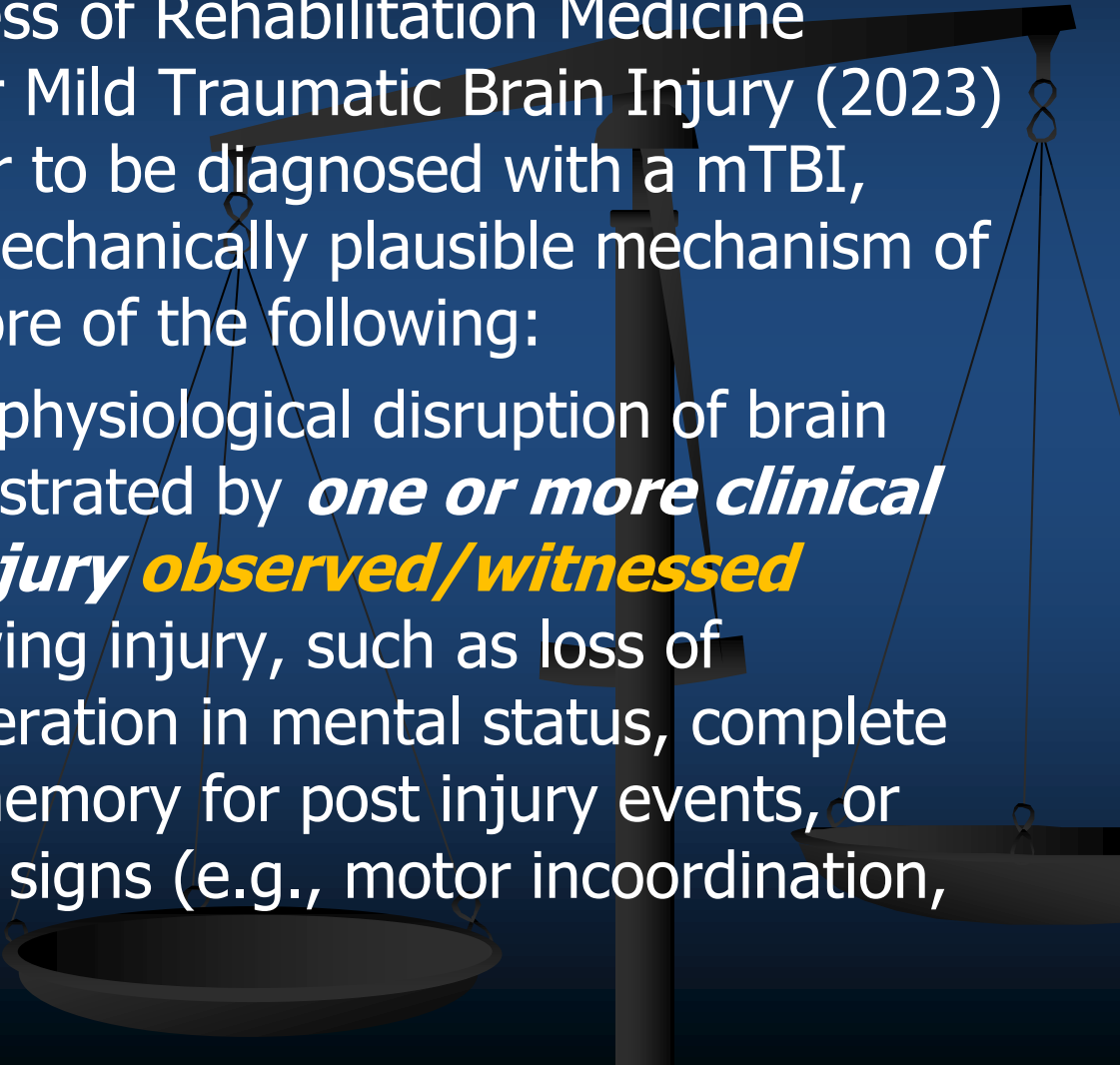
What is a Mild Traumatic Brain Injury (mTBI)?

= Concussion

■ Diagnostic Criteria?

- Loss of Consciousness <30 minutes
- Glasgow Coma Scale = 13-15
- Anterograde Amnesia < 24 hours
- No trauma-related findings on brain imaging
 - Has to be some evidence of altered mentation immediately post-injury

What is a Mild Traumatic Brain Injury (mTBI)?

- The American Congress of Rehabilitation Medicine Diagnostic Criteria for Mild Traumatic Brain Injury (2023) indicates that in order to be diagnosed with a mTBI, there must be a biomechanically plausible mechanism of injury, and one or more of the following:
 - Evidence of acute physiological disruption of brain function as demonstrated by ***one or more clinical signs of brain injury observed/witnessed*** immediately following injury, such as loss of consciousness, alteration in mental status, complete or partial loss of memory for post injury events, or acute neurological signs (e.g., motor incoordination, seizure, etc.).
- 

What is a Mild Traumatic Brain Injury (mTBI)?

- ***Two or more self-reported acute*** symptoms, such as subjective alteration in mental status **immediately post-injury**, and physical (e.g., headache and nausea), cognitive, or emotional symptoms within 72 hours of injury; **and at least one clinical or laboratory finding**, such as impairment in cognition, balance, or oculomotor function, or elevated blood biomarkers, on ***acute clinical exam*** (conducted shortly after injury).
- Neuroimaging evidence of TBI, such as unambiguous trauma-related intracranial abnormalities on computed tomography or structural magnetic resonance imaging (which, if present, represents mild complicated traumatic brain injury).

What is a Mild Traumatic Brain Injury (mTBI)?

- In other words, diagnosis of mTBI **cannot** be made based solely on self-reported symptoms



Truths or Myths?



- **1)** Diagnosis of Mild Traumatic Brain Injury is based on patient self-report of symptoms days/weeks/months/years post-injury?
 - **No**
- **2)** People do not recover cognitive function after mTBI?
 - **Not true**
- **3)** Ok, a subset do not recover cognitive function after mTBI?
 - **No**

Truths or Myths?



- 4) Isn't there a "miserable minority" (up to 15% of mTBI patients) who do not recover their cognitive function?
 - No
 - DSM-5-Text Revision (DSM-5-TR; 2022)
 - *"Neurocognitive impairments associated with mild TBI typically resolve within days to weeks after the injury, with **complete resolution within 3-12 months post-injury**...."*
 - Six "**meta-analyses**" show no longterm residuals from concussion
 - Binder et al. (1997), Schretlen & Shapiro (2003), Belanger et al. (2005), Belanger & Vanderploeg (2005), Frencham et al. (2005), Rohling et al. (2011)

Truths or Myths?



- **5)** Doesn't having a concussion raise the risk of developing dementia (Alzheimer's disease)
 - **No**
 - Alzheimer's organization website:
 - "There's no evidence that a single mild TBI increases cognitive decline and dementia risk."

Truths or Myths?



- 6) What about **retired NFL players** – don't they have permanent problems from concussion(s)?
 - The research is still being conducted
 - Their brains show markers for **"trauma" (CTE)** but this does not necessarily equate to loss of function (e.g., Frank Gifford)
 - Estimated that football players sustain **1500** blows to the head per year of play
 - Findings in football players do not apply to individuals sustaining a single concussion

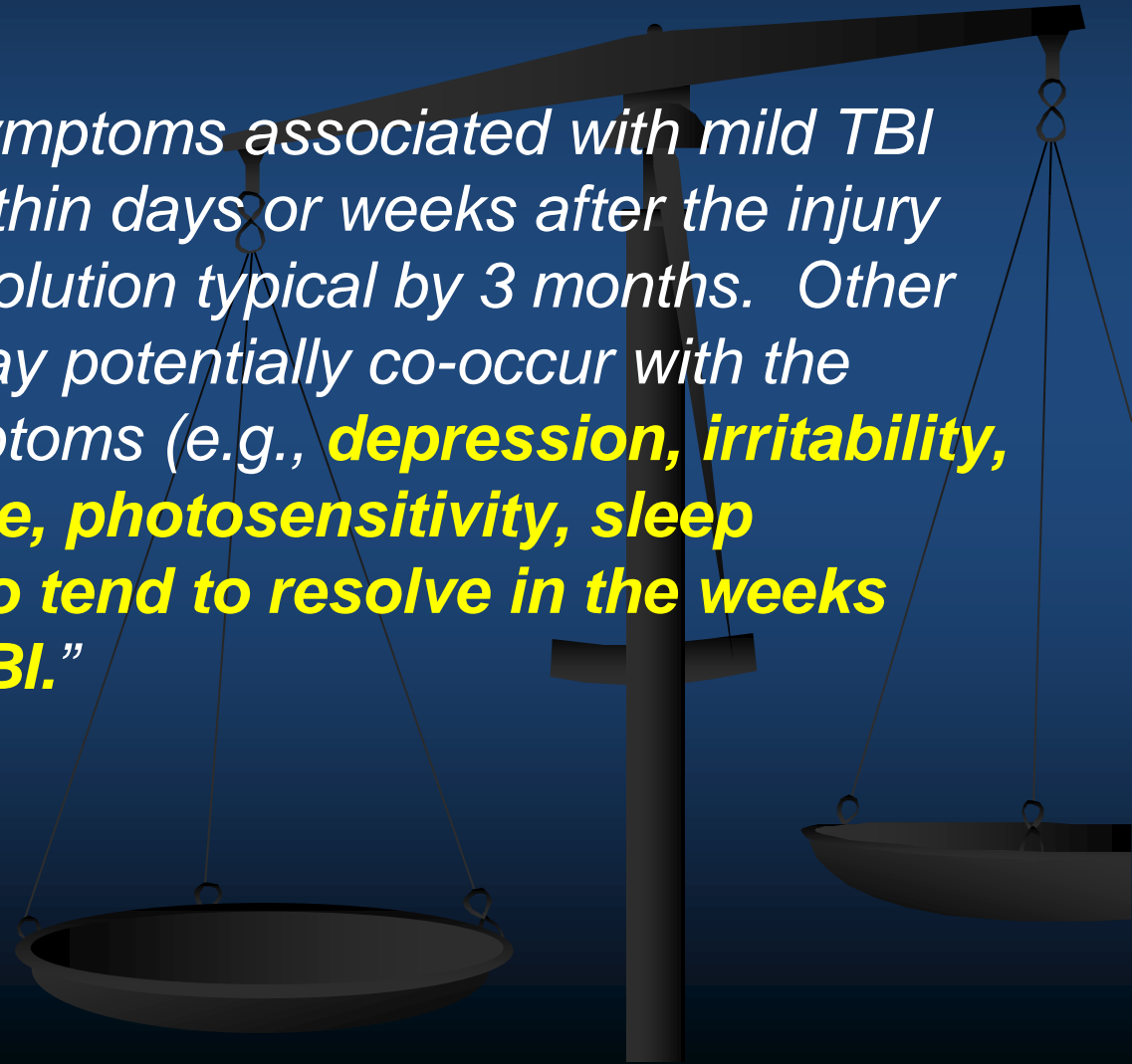
Truths or Myths?



- **7)** OK, but do not individuals who sustain a concussion have long term
 - Headaches
 - Balance problems
 - Vision problems (convergence insufficiency)
 - Irritability
 - Depression/anxiety/poor coping ability?
 - No
 - Mickeviciene et al. (2004), Panayiotou et al. (2010), van Donkelaar, Dierijck, Wright, & Smirl, 2018;; Del Rossi, 2021)

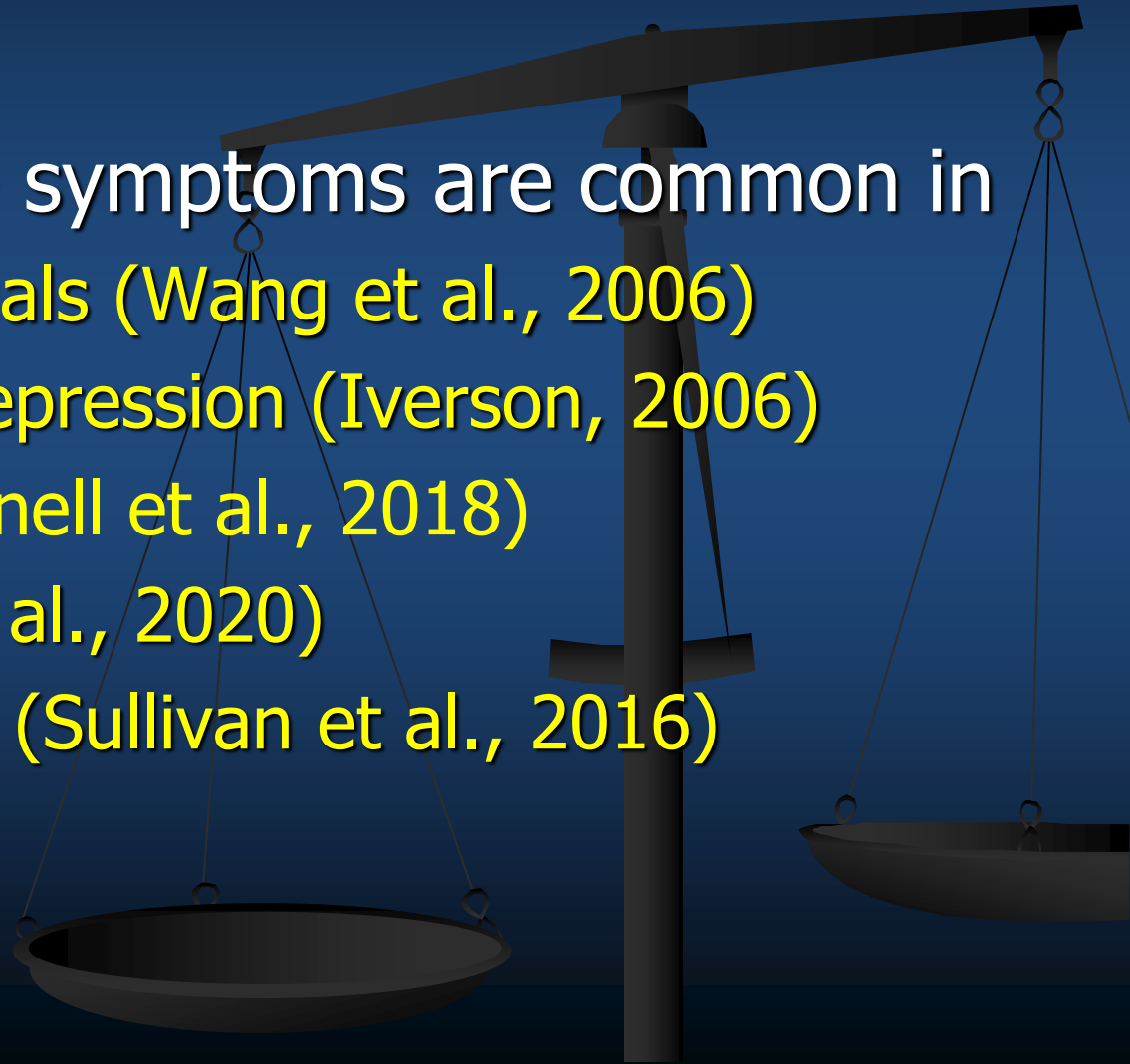
■ DSM-5 (2013)

- *Neurocognitive symptoms associated with mild TBI tend to resolve within days or weeks after the injury with complete resolution typical by 3 months. Other symptoms that may potentially co-occur with the neurological symptoms (e.g., **depression, irritability, fatigue, headache, photosensitivity, sleep disturbance**) also tend to resolve in the weeks following mild TBI.”*



Then why do some individuals report long term symptoms from concussion?

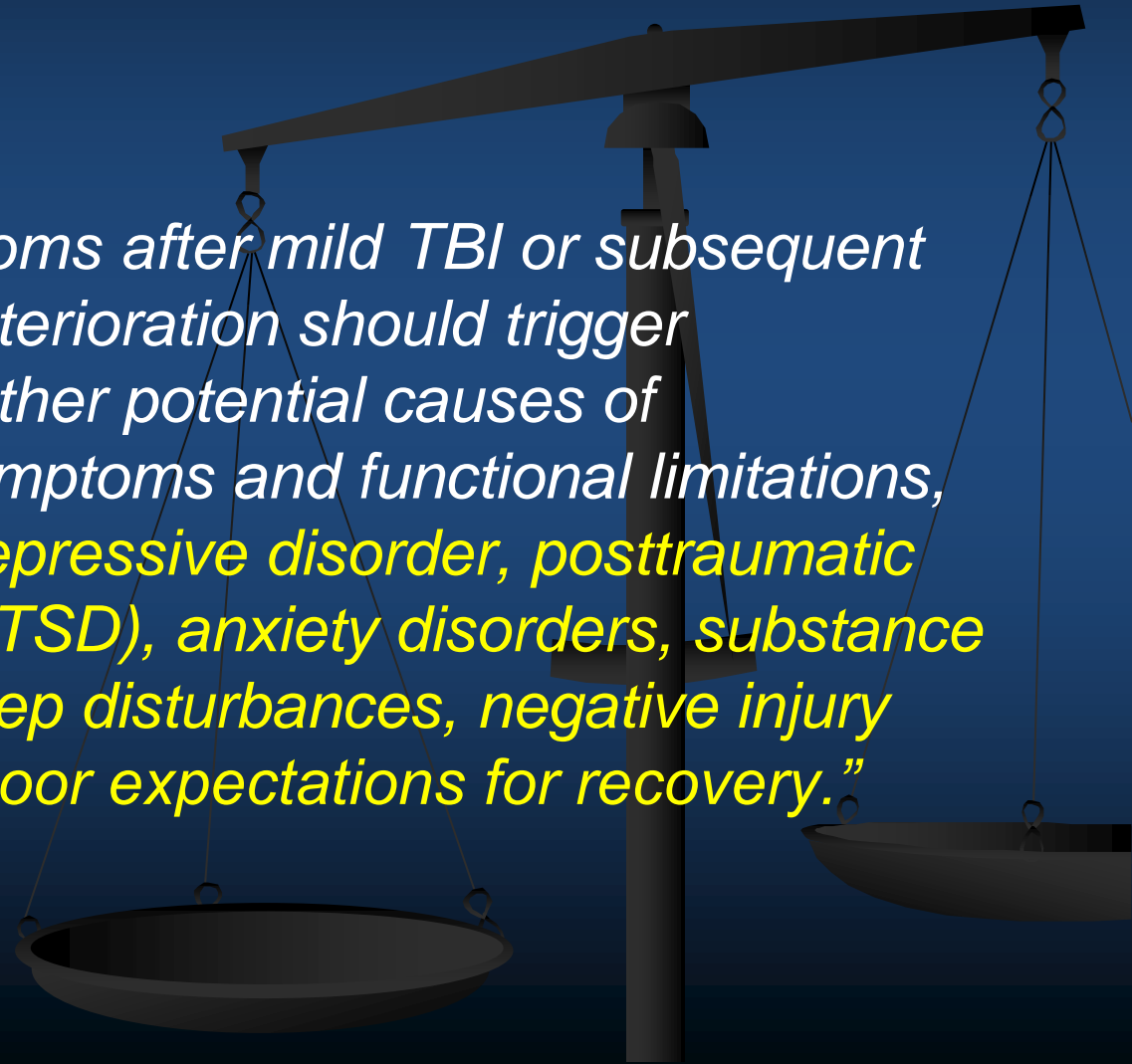
- Post-concussive symptoms are common in
 - Normal individuals (Wang et al., 2006)
 - Patients with depression (Iverson, 2006)
 - Chronic pain (Snell et al., 2018)
 - ADHD (Cook et al., 2020)
 - Sleep problems (Sullivan et al., 2016)



Why do individuals report long term symptoms from concussion?

- DSM-5-TR (2022)

- *“Persistent symptoms after mild TBI or subsequent neurocognitive deterioration should trigger consideration of other potential causes of neurocognitive symptoms and functional limitations, including **major depressive disorder, posttraumatic stress disorder (PTSD), anxiety disorders, substance use disorders, sleep disturbances, negative injury perceptions and poor expectations for recovery.**”*



Then why do individuals report long term symptoms from concussion?

- DSM-5-TR (2022)
- *“Mental disorders (e.g., major depressive disorder, anxiety disorders, PTSD, alcohol and other substance use disorders, sleep disturbances),*
- *prescribed medications (e.g., typical antipsychotics, benzodiazepines, drugs with anticholinergic properties, antiepileptic drugs),*
- *and other medical conditions*

may contribute to or account for cognitive impairments among individuals with TBI, and need to be considered in the differential diagnosis of major or mild NCD due to TBI.”

Then why do individuals report long term symptoms from concussion?

- Somatic Symptom (Somatoform) Disorder

The DSM-5 cautions that

- *“In some instances, severity of neurocognitive symptoms may appear to be inconsistent with the severity of the TBI. After previously undetected neurological complications (e.g., chronic hematoma) are excluded, the possibility of diagnoses such as **somatic symptom disorder** or factitious disorder need to be considered.”*

- Estimated that 30% to >40% of neurology clinic patients have a somatoform disorder (Galli et al., 2018; Fink et al., 2005)

- Being in an accident does not cure them of this condition

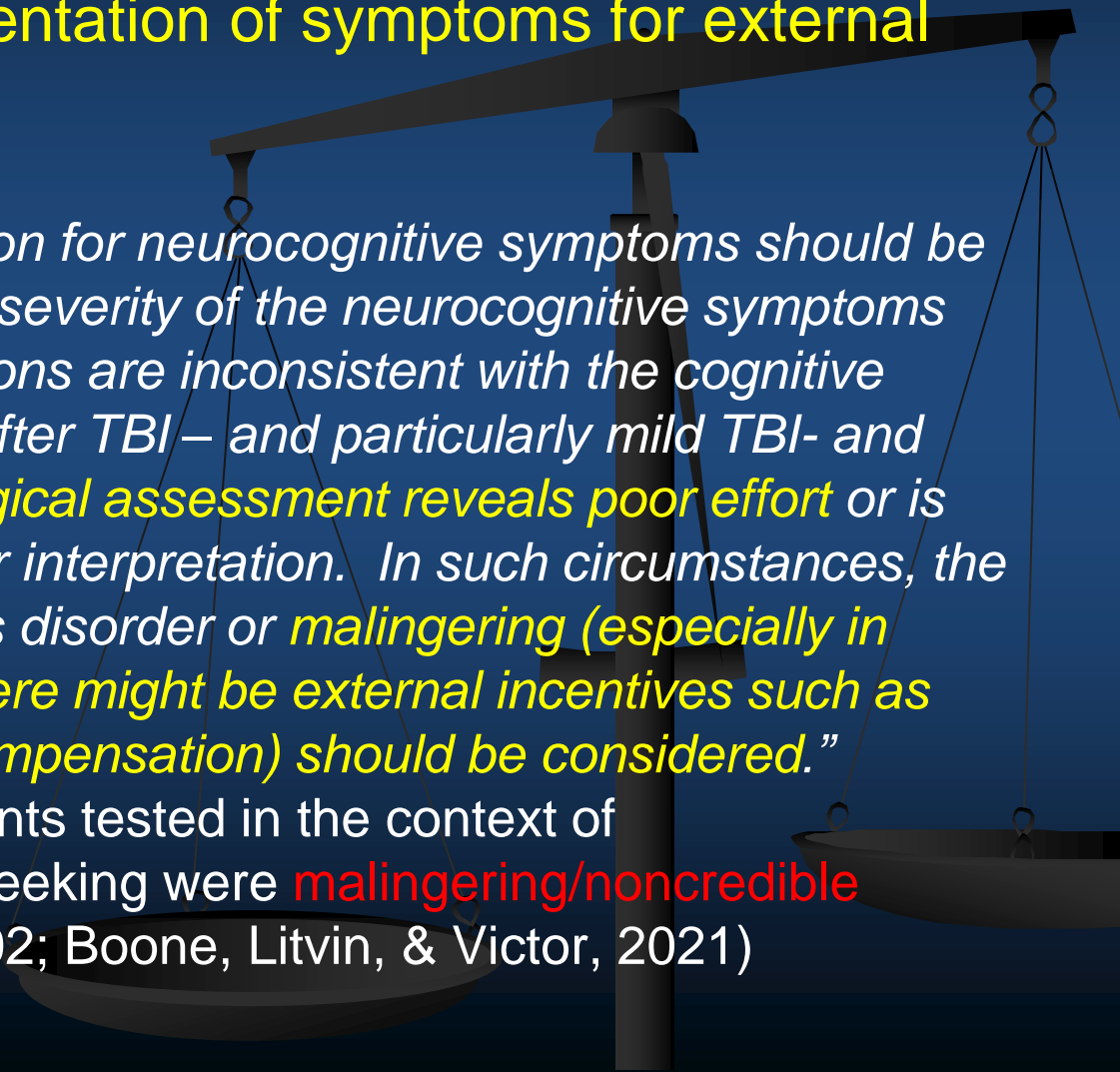
Then why do individuals report long term symptoms from concussion?

■ Deliberate misrepresentation of symptoms for external gain

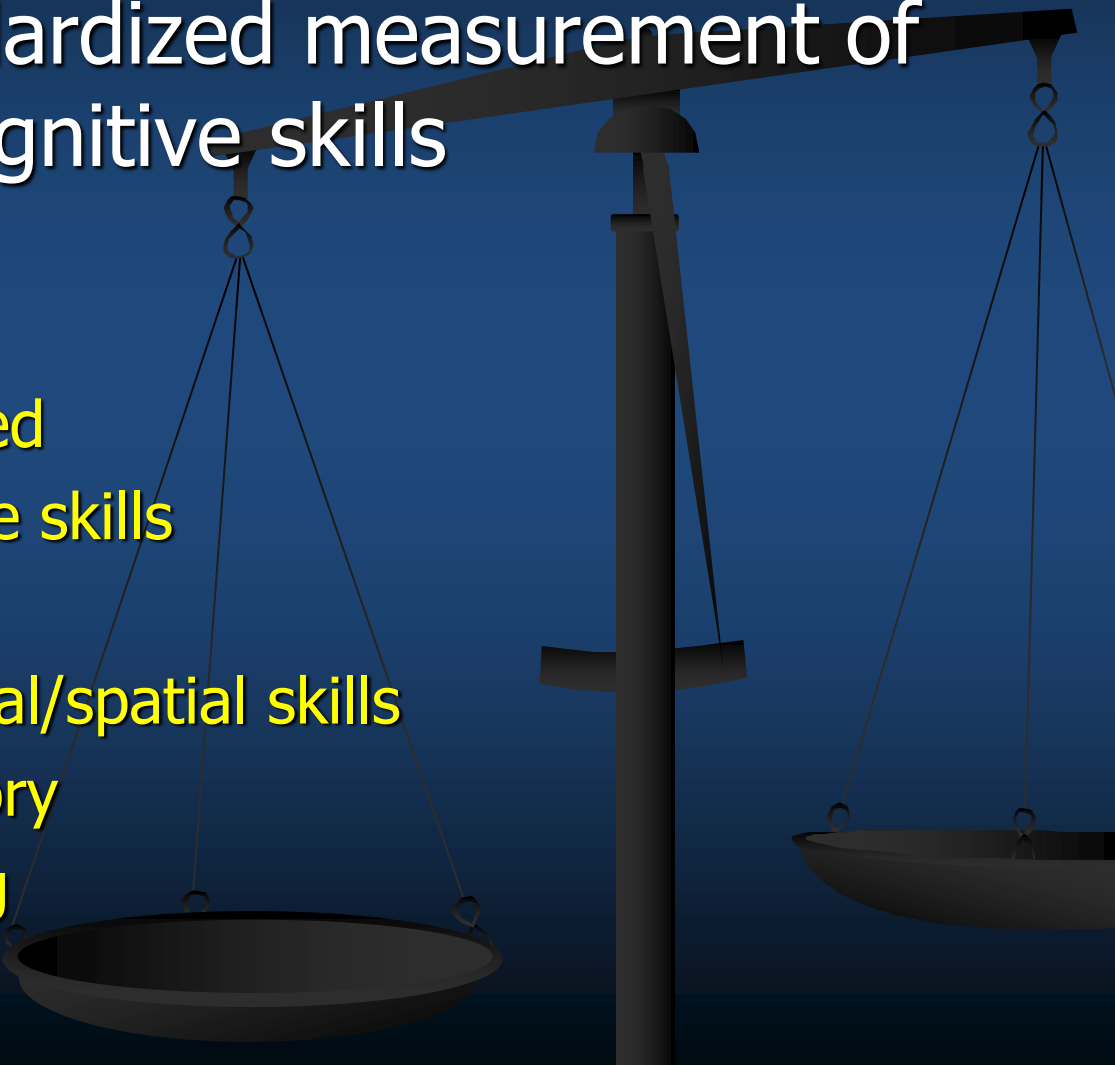
■ DSM-5-TR:

- *“Alternative explanation for neurocognitive symptoms should be considered when the severity of the neurocognitive symptoms and functional limitations are inconsistent with the cognitive outcomes expected after TBI – and particularly mild TBI- and **when neuropsychological assessment reveals poor effort** or is otherwise not valid for interpretation. In such circumstances, the possibility of factitious disorder or **malingering (especially in situations in which there might be external incentives such as obtaining financial compensation)** should be considered.”*

- 41% - 45% of mTBI patients tested in the context of litigation/compensation-seeking were **malingering/noncredible**
 - (Mittenberg et al., 2002; Boone, Litvin, & Victor, 2021)

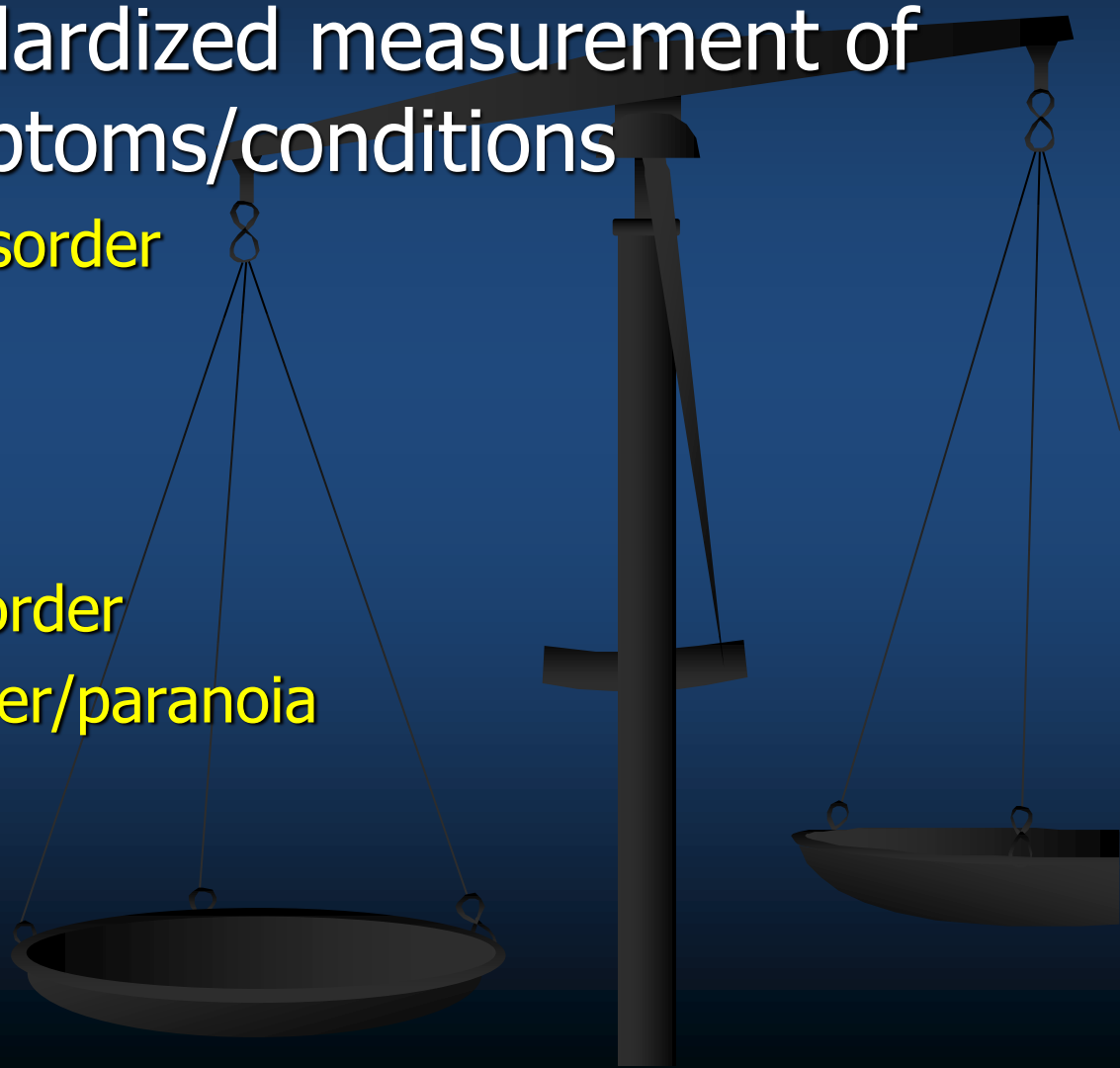


What is neuropsychological testing?

- Objective, standardized measurement of various neurocognitive skills
 - Overall IQ
 - Attention
 - Processing speed
 - Verbal/language skills
 - Math ability
 - Visual perceptual/spatial skills
 - Learning/memory
 - Problem-solving
 - Motor function
- 

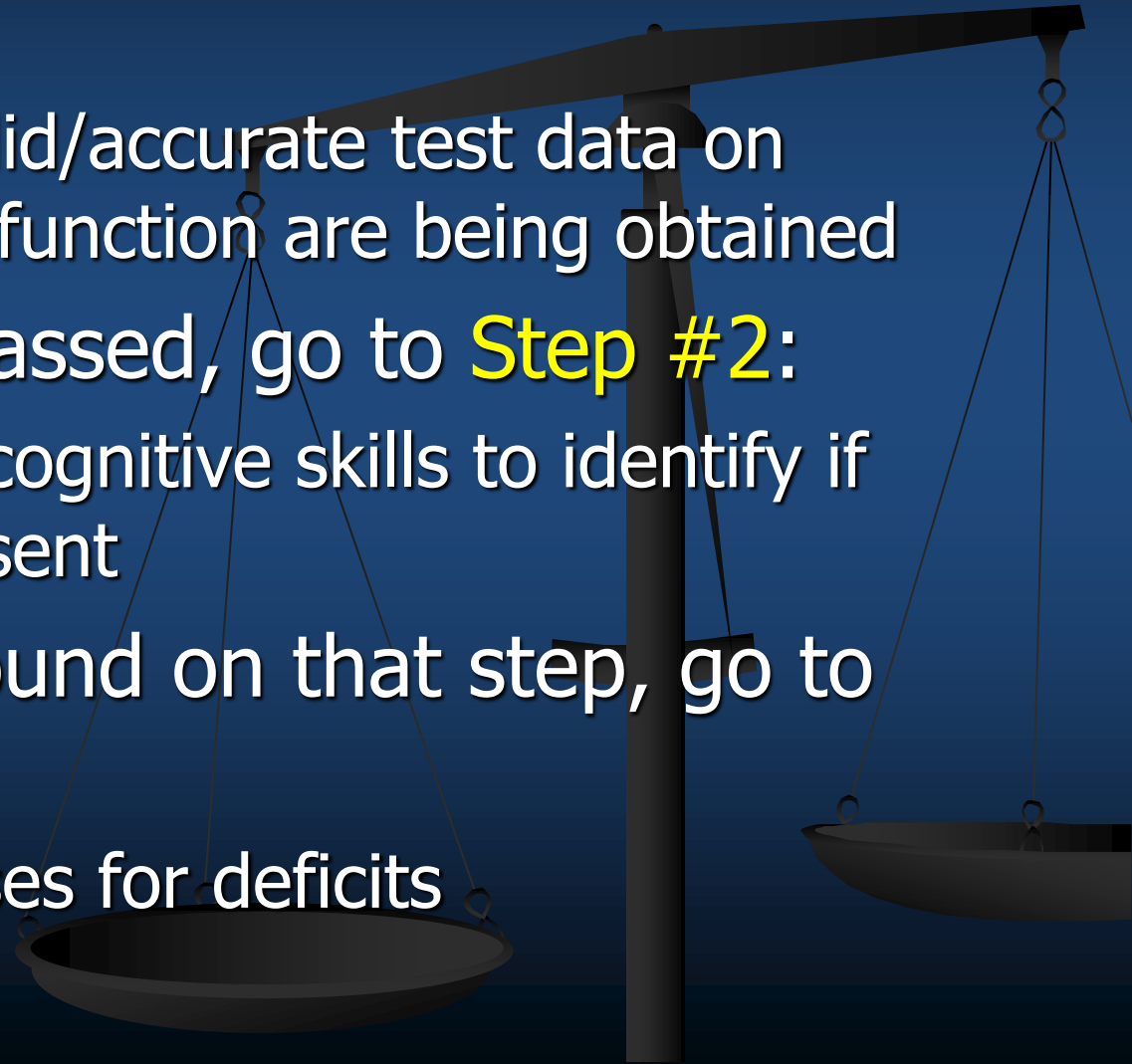
What is neuropsychological testing?

- Objective, standardized measurement of psychiatric symptoms/conditions
 - Somatoform disorder
 - Depression
 - Anxiety
 - Bipolar
 - Personality disorder
 - Thought disorder/paranoia



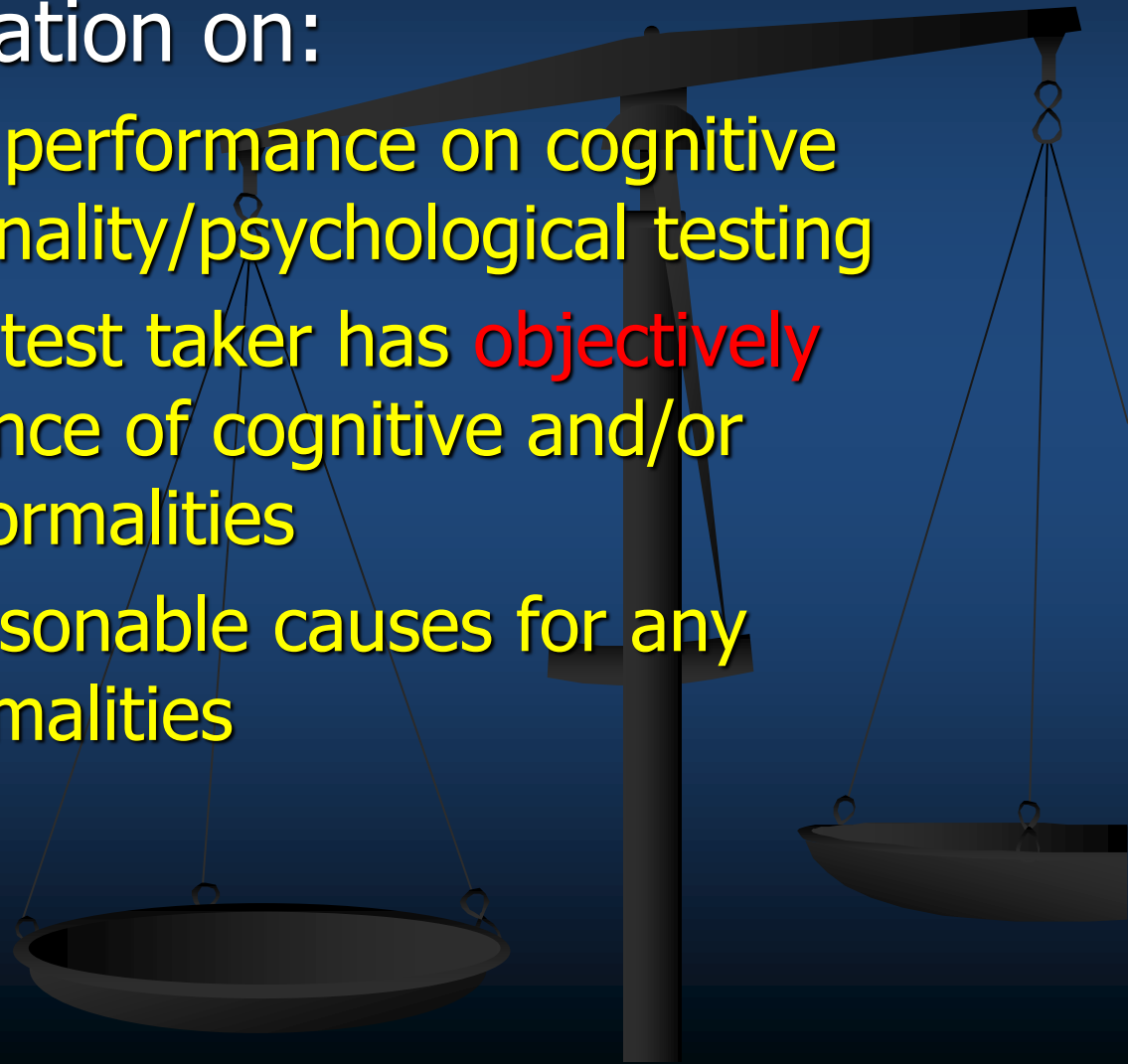
The role of neuropsychological testing in litigation

- **Step #1:**
 - determine if valid/accurate test data on neurocognitive function are being obtained
- If that step is passed, go to **Step #2:**
 - Measure neurocognitive skills to identify if deficits are present
- If deficits are found on that step, go to **Step #3,**
 - Determine causes for deficits



Neuropsychological testing

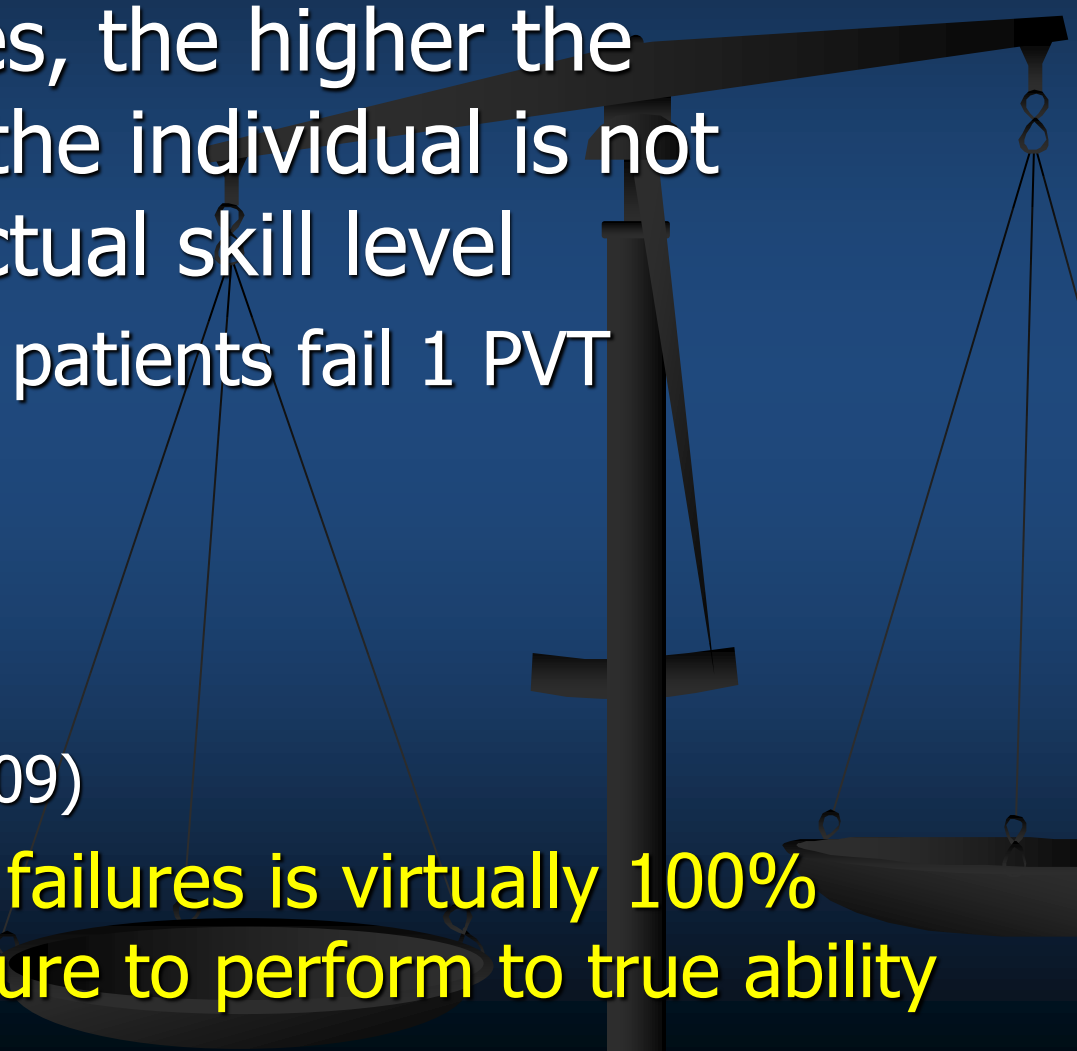
- Provides information on:
 - 1) credibility of performance on cognitive tests and personality/psychological testing
 - 2) whether the test taker has **objectively** identified evidence of cognitive and/or psychiatric abnormalities
 - 3) the most reasonable causes for any detected abnormalities



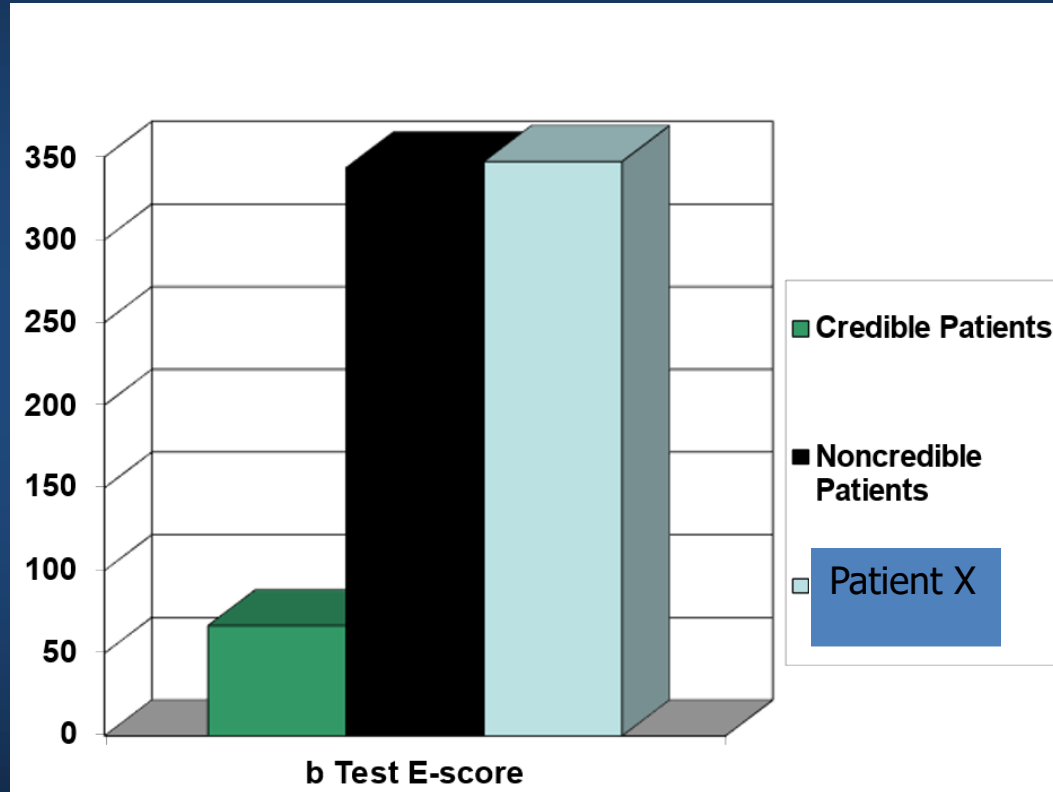
Step #1: Performance validity tests (PVTs)

- Validated tests that determine whether test takers are performing to true ability
- Practice guidelines indicate that these tests are to be inserted throughout a neuropsychological exam (Sweet et al., 2021)
 - Survey data show that the average number of PVTs administered in a forensic neuropsychological exam is 6 to 8 (Martin et al., 2015; Schroeder et al., 2016)

Step #1: Performance validity tests (PVTs)

- The more failures, the higher the probability that the individual is not performing to actual skill level
 - 41% of credible patients fail 1 PVT
 - 5% fail 2
 - 1.5% fail 3
 - Zero fail 4
 - Victor et al. (2009)
 - **Therefore, ≥ 3 failures is virtually 100% predictive of failure to perform to true ability**
- 

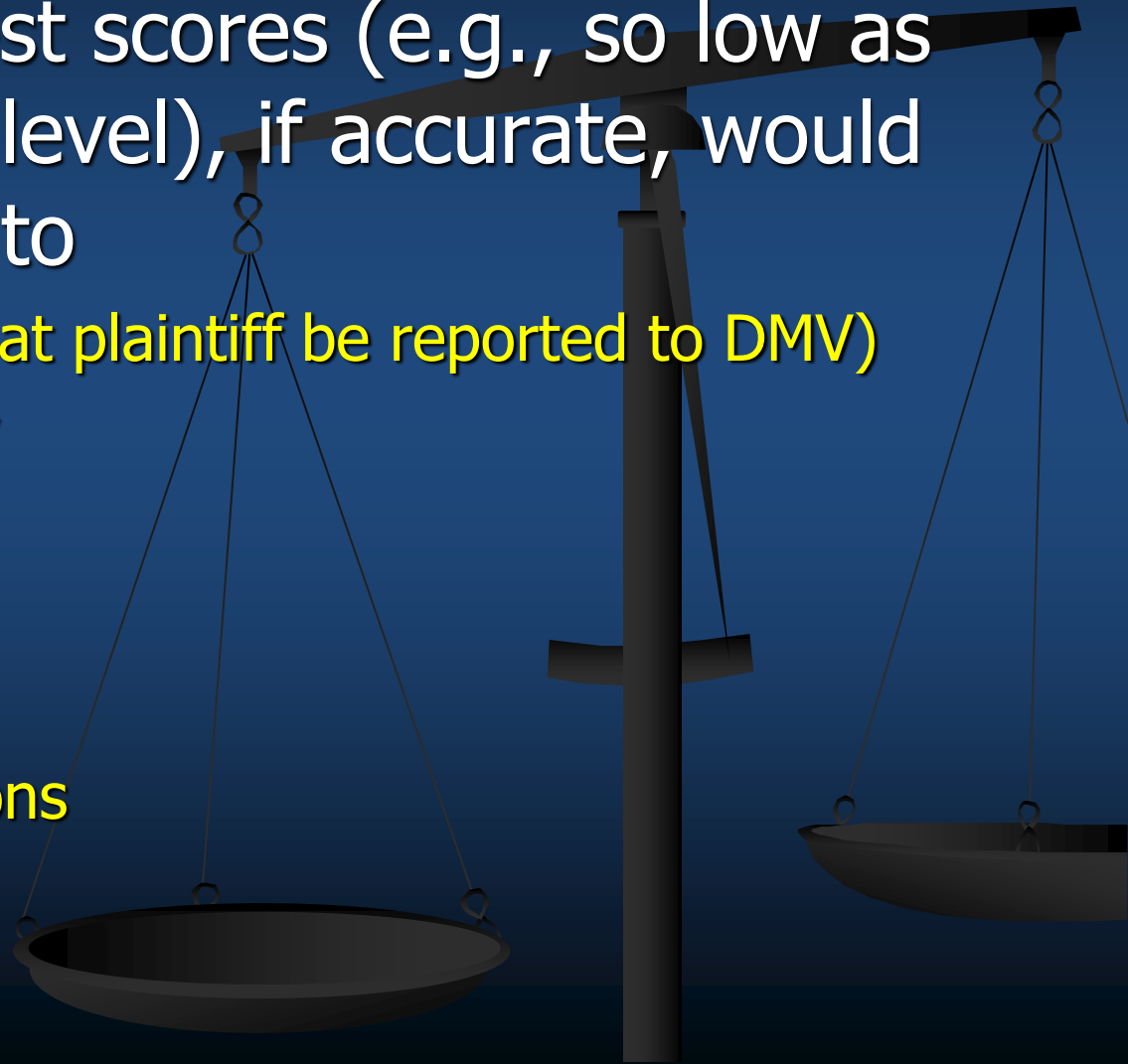
Sample graph to show jury as to how plaintiff was performing on PVT



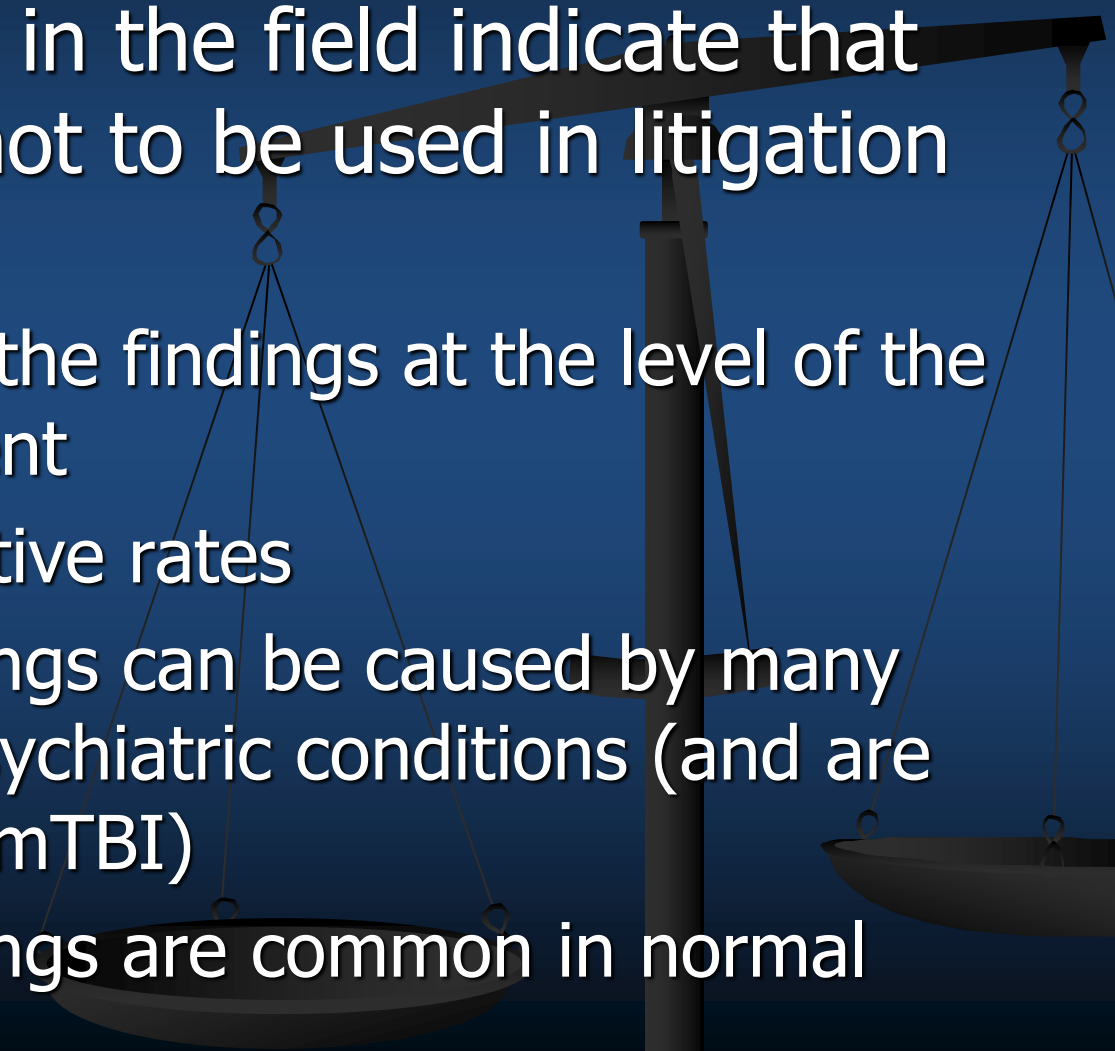
The higher the score, the more noncredible the performance

Noncredible presentation can also be demonstrated to jury by

- Showing that test scores (e.g., so low as to be dementia level), if accurate, would preclude ability to
 - drive (requiring that plaintiff be reported to DMV)
 - live independently
 - parent
 - work
 - manage finances
 - manage medications
 - testify



Role of “advanced” MRI (DTI, fMRI) in mTBI cases

- Position papers in the field indicate that such data are not to be used in litigation due to
 - unreliability of the findings at the level of the individual patient
 - High false positive rates
 - Abnormal findings can be caused by many medical and psychiatric conditions (and are not specific to mTBI)
 - Abnormal findings are common in normal individuals
- 



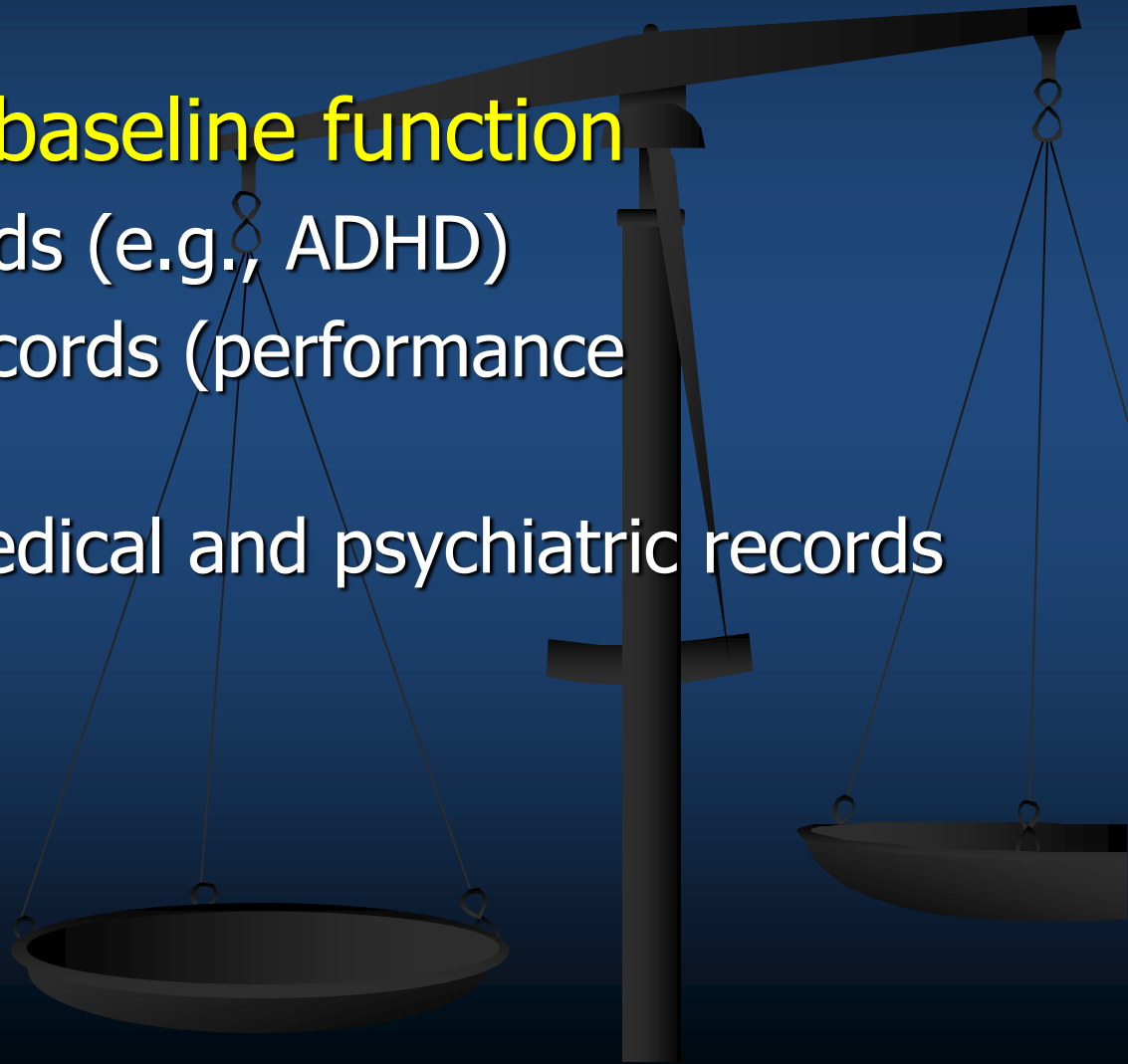
- DMS-5-TR (2022)

- *“While **neuroimaging** and other clinical assessments (e.g., subtle neurological signs) may provide supportive information, **they cannot independently diagnose NCD* due to TBI.**”*

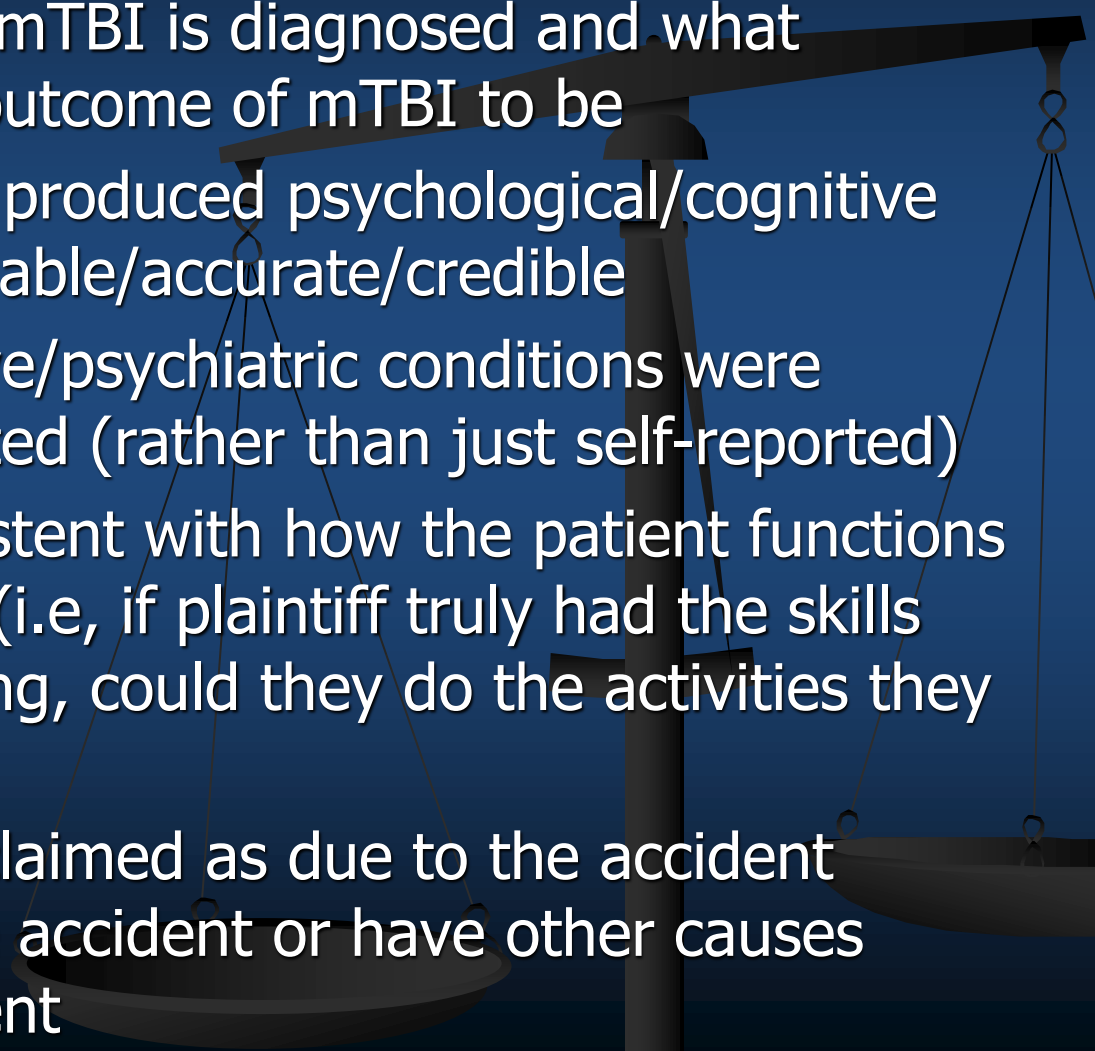
- *neurocognitive dysfunction

Information needed by neuropsychologist

- Information on **baseline function**
 - Academic records (e.g., ADHD)
 - Employment records (performance evaluations)
 - Pre-accident medical and psychiatric records



What information needs to be conveyed to jury

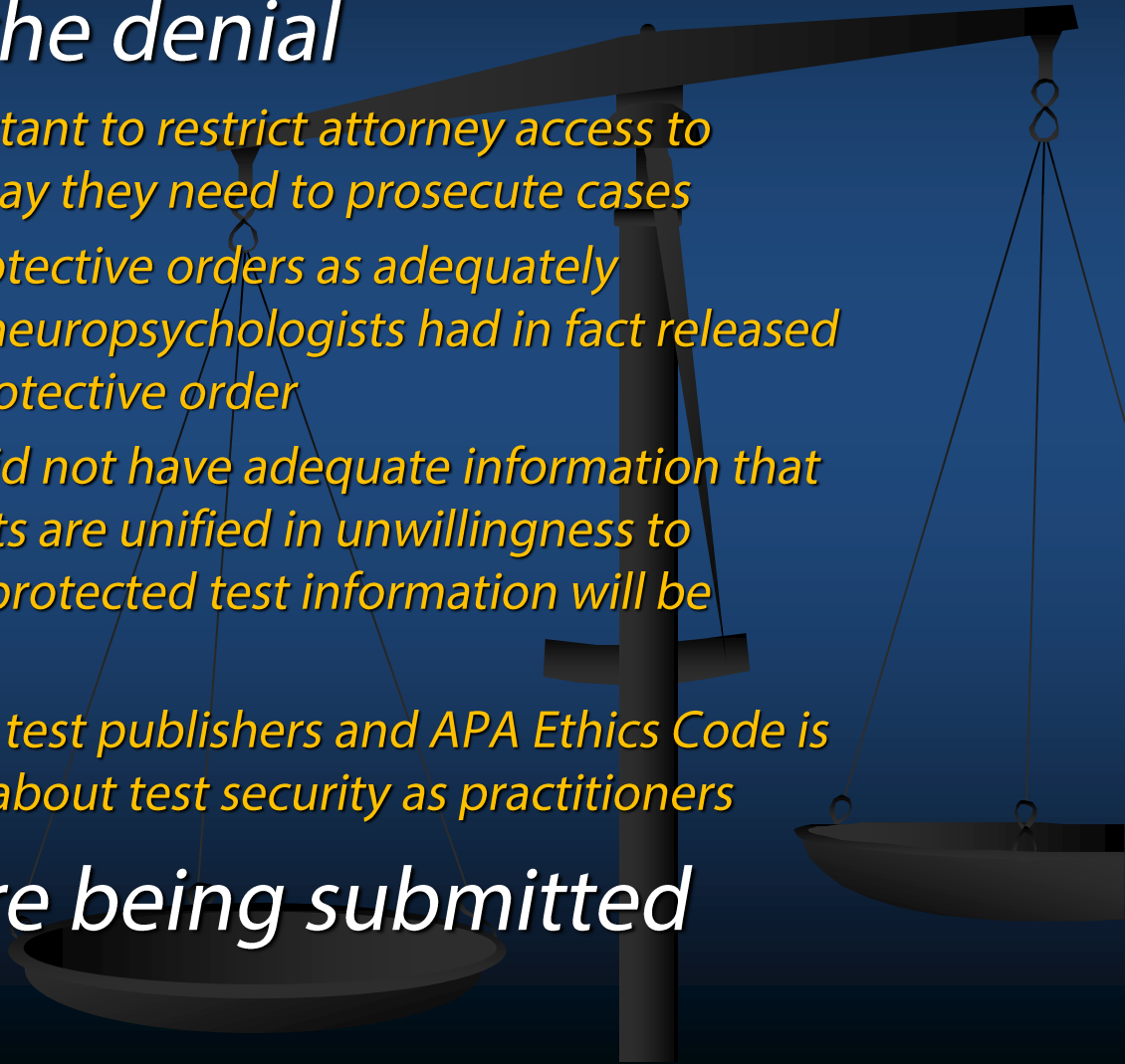
- Education as to how mTBI is diagnosed and what research shows the outcome of mTBI to be
 - Whether the plaintiff produced psychological/cognitive test data that are reliable/accurate/credible
 - Whether any cognitive/psychiatric conditions were objectively documented (rather than just self-reported)
 - Are test scores consistent with how the patient functions in daily life activities (i.e, if plaintiff truly had the skills documented on testing, could they do the activities they are doing?)
 - Whether symptoms claimed as due to the accident actually predated the accident or have other causes other than the accident
- 

Test Security: Recent Ruling in California: writ denied (4/23)

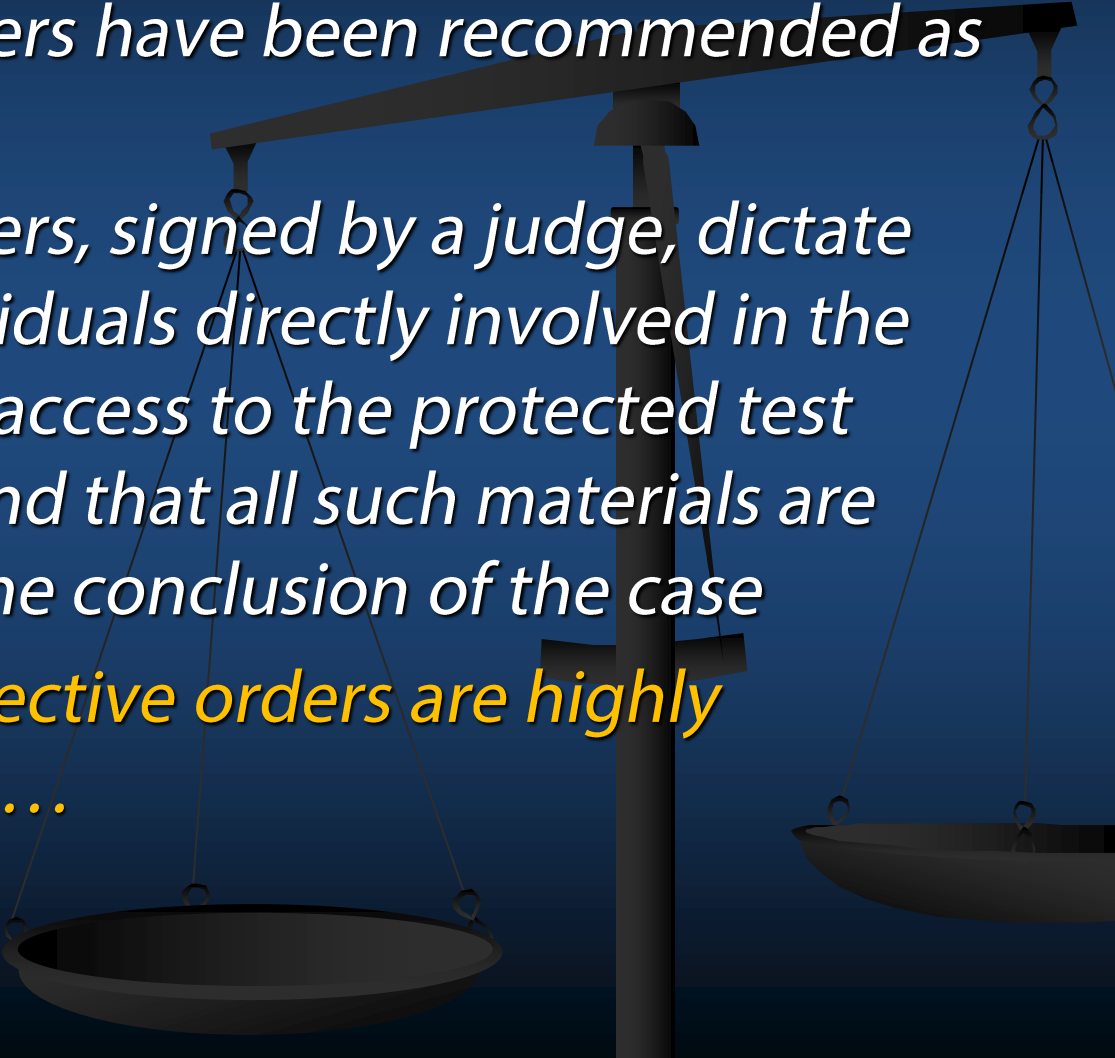
■ *Reasons for the denial*

- *1) judges are reluctant to restrict attorney access to information they say they need to prosecute cases*
- *2) they viewed protective orders as adequately protective, and 3 neuropsychologists had in fact released test data under protective order*
- *3) the trial court did not have adequate information that neuropsychologists are unified in unwillingness to conduct exams if protected test information will be released*
- *4) impression that test publishers and APA Ethics Code is not as concerned about test security as practitioners*

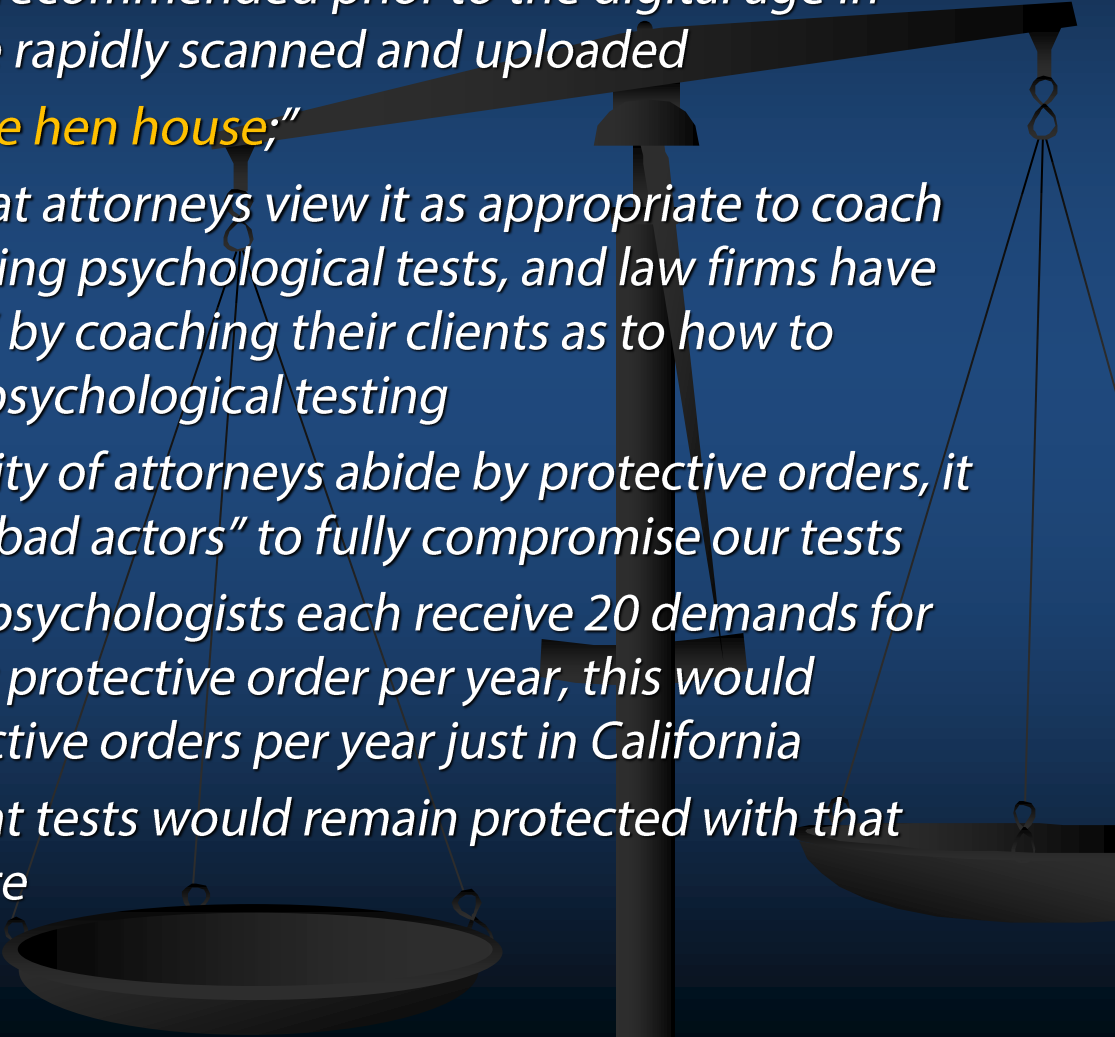
■ *More writs are being submitted*



Current psychological test security issues:

- *Protective orders have been recommended as a “last resort”*
 - *Protective orders, signed by a judge, dictate that only individuals directly involved in the case can have access to the protected test information, and that all such materials are destroyed at the conclusion of the case*
 - *However, protective orders are highly problematic.....*
- 

What about protective orders?

- *They do not appear to be fully or consistently enforced*
 - *They were developed/recommended prior to the digital age in which materials can be rapidly scanned and uploaded*
 - *The “fox is guarding the hen house;”*
 - *Research shows that attorneys view it as appropriate to coach their clients regarding psychological tests, and law firms have engaged in “fraud” by coaching their clients as to how to respond on neuropsychological testing*
 - *Even if the large majority of attorneys abide by protective orders, it would take just a few “bad actors” to fully compromise our tests*
 - *If 100 California neuropsychologists each receive 20 demands for test information under protective order per year, this would amount to 2000 protective orders per year just in California*
 - *It is not realistic that tests would remain protected with that amount of exposure*
- 

- *Also, protective orders do not “erase” test information from the minds of non-psychologists*



Pop-Up Question

- **Individuals who sustain a concussion:**
 - **A. Show no cognitive abnormalities immediately after injury**
 - **B. Fully recover cognitive skills within days to at most 12 months post-injury**
 - **C. Have cognitive symptoms that get worse over time**
 - **D. Never fully recover cognitive function**

THANK YOU! If you have any questions, please contact one of the presenters



Brooke Churchman
HALL & EVANS, LLC
Denver, CO, USA
E: churchmanb@hallevans.com
T: (303) 628-3300



Jay Skolaut
HINKLE LAW FIRM LLC
Wichita, KS, USA
E: jskolaut@hinklaw.com
T: (316) 267-2000



Kyle Boone, Ph.D., ABPP-ABCN
Clinical Neuropsychologist
PRIVATE PRACTICE
Torrance, CA, USA
E: kboone@kyleboonephd.com
T: (310) 375-5740

CLE & Post-Webinar Survey

- **ALFA INTERNATIONAL IS AN APPROVED PROVIDER OF CLE IN CALIFORNIA AND ILLINOIS.** If you need credit in another state, you should consult with that state's CLE board for details on how to apply for approval. ALFAI provides a CLE package that answers questions you will likely be asked when applying and also gives direction as to what we believe is needed to apply in each state.
- **NEW SERVICE:** Some state CLE boards require verification of participation in webinars. To satisfy that requirement, ALFAI will now prompt participants to answer questions and/or provide a verification code, as we did in this webinar. If this is required in your state:
 - Please note these items on the Certificate of Completion you will receive after the webinar.
 - Keep a copy of the certificate for auditing purposes.
- If you encounter any difficulties in obtaining CLE credit in your state, please contact:
 - **Brandie Smith**
bsmith@alfainternational.com
- **POST-WEBINAR SURVEY:** You will be prompted to complete a Post-Webinar Survey after exiting this webinar. Your feedback will help ALFA International continue to provide quality programming to our members and clients.