Traumatic Brain Injury Screening in the Texas Juvenile Justice system
Our nation’s special education law, the Individuals with Disabilities Education Act (IDEA) defines traumatic brain injury as...

“...an acquired injury to the brain caused by an external physical force, resulting in total or partial functional disability or psychosocial impairment, or both, that adversely affects a child’s educational performance. The term applies to open or closed head injuries resulting in impairments in one or more areas, such as cognition; language; memory; attention; reasoning; abstract thinking; judgment; problem-solving; sensory, perceptual, and motor abilities; psycho-social behavior; physical functions; information processing; and speech. The term does not apply to brain injuries that are congenital or degenerative, or to brain injuries induced by birth trauma.”

34 Code of Federal Regulations §300.7(c)(12)
Non-fatal TBI:

**CHILDREN, YOUTH & EMERGING ADULTS**

**FALLS** - 55% of TBIs in children 0-15 years old.

**BLUNT TRAUMA** - 24% of TBIs in children 0-15 years old.

**ASSAULTS** - 3% of TBIs in children 0-15 years old.

About 75% of all assaults associated with TBI occur in youth and young adults.

Among TBI-related deaths:

Assaults were the leading cause for children ages 0-4.
Motor vehicle crashes were the leading cause (31%) of TBI deaths.

Content source: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Division of Unintentional Injury Prevention
Injuries to infants and children before preschool age may impact critical stages of development so that even mild TBIs may cause long-term cognitive and socio-behavioral problems.

Many children who suffered mild TBI early in life may appear to have normal cognition and behavioral development at age two, but are labeled as “problem children” or diagnosed with ADHD as teenagers, long after their history of TBI is forgotten.
TBIs impact:

Cognition abilities:
- attention
- concentration
- memory
- speed of processing
- language processing

Executive functioning:
- planning
- organizing
- sequencing
- inhibition/disinhibition
- problem solving

Neuropsychiatric consequences:
- pathologic laughing and crying,
- affective lability
- irritability
- disinhibition
- aggression.
## Symptoms relevant to Juvenile Justice

<table>
<thead>
<tr>
<th>Memory loss</th>
<th>Confusion</th>
<th>Fatigue</th>
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<tbody>
<tr>
<td>Attention deficits</td>
<td>Irritability</td>
<td>Headaches</td>
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<tr>
<td>Difficulty concentrating</td>
<td>Personality changes</td>
<td>Depression</td>
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<tr>
<td>Slowed processing speed</td>
<td>Impulsivity</td>
<td>Anxiety</td>
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Complicating Factors

Most TBIs are mild and are never identified
Youth with TBI are more likely to re-offend
Youth with TBI may experience:
- Difficulty following rules (impaired understanding & recall)
- Irritability, impulsivity, anger, inability to inhibit behavior
- Depression, anxiety, suicidal thoughts and/or behavior
- Impaired problem-solving ability
- Substance use issues
- Social inappropriateness
- Victimization
An underlying TBI can manifest in a number of problems for children, youth and emerging adults including attention and memory deficits, irritability or anger, slowed verbal and physical responses, and uninhibited or impulsive behavior. These symptoms make it difficult for the youth to focus on and respond to directions which may be perceived as deliberate defiance.

Failure to recognize the etiology of these symptoms precludes appropriate treatment/symptom management.
A prior TBI increases the risk for re-injury.

Awareness of prior TBI provides important information to allow individuals and parents, coaches, clinicians, and other parties to make informed decisions about risk tolerance.

Prior TBI may negatively affect recovery from a subsequent TBI.

Individuals who are reinjured may suffer more severe consequences because of the cumulative effects of multiple injuries. Information about lifetime TBI history can assist in accounting for current symptoms and altered trajectories of recovery.
The purpose of the Texas Juvenile Justice TBI Screening pilot project was to use the electronic Brain Injury Screening Questionnaire (BISQ) to screen children and youth 10 – 18 in the Texas juvenile justice system with pre-diagnosed mental health and substance abuse issues to determine if TBI may be a contributing factor to their behavioral issues.
Approximately 106,000 youth in the Texas juvenile justice system

- Committed Felony Offense 100%
- IQ Less Than 100 83%
- Parent Unmarried, Divorced, or Separated 79%
- On Probation at Commitment 74%
- Prior Out of Home Placement 63%
- Family History of Criminal Behavior 44%
- Identified need for Specialized Treatment 92%

- Chemically Dependent 54%
- Known Gang Member 44%
- History of Abuse or Neglect 36%
- Serious Mental Health Diagnosis 42%
- Special Education Eligible 32%
- Median Education Achievement Behind 4-5 years
- Violent Risk Score 21.2%

Undiagnosed, untreated TBI
GOAL: IDENTIFY RISKS

To determine the approximate percentage of children and youth in the Texas juvenile justice system who have high, moderate or low probability of TBI, diagnosed or undiagnosed, and to coordinate or refer the appropriate array of services through sustainable collaborative efforts.
To provide essential training to juvenile justice professionals, attorneys and judges, probation and parole officers, parents and guardians and teachers that will foster a higher probability of success for these youth offenders and a significant decrease in recidivism and matriculation into the adult correctional system.
GOAL: INFLUENCE SERVICE SYSTEMS

To influence statewide systems and education beyond the juvenile justice system.
To enable youthful offenders to exercise better judgment, manage anger and find new pathways to a productive life.

To reduce recidivism

To change and save lives
Youth Short Term Executive Plus program (YSTEP)

The Youth Short Term Executive Plus program addresses cognitive and behavioral challenges associated with executive dysfunction as well as deficits in emotional self-regulation in adolescents that have been identified as possibly having a traumatic brain injury and/or youth that have demonstrated a history of poor coping and/or self-regulating skills.
Treatment Team

- Probation officers
- Parents or guardians
- Intake officers
- Physicians
- Neuropsychologists
- Psychologists
- Licensed chemical dependency counselors
- Social workers
Lessons

- Identifying Triggers and Understanding Anger
- Understanding and Exploring Sensations
- Relaxation Strategies and Techniques
- Thoughts & Thinking Errors & How they Impact Choices & Outcomes
- Thinking and the Decision Making Process
- Understanding Consequences, Outcomes & Behaviors
- Types of Communication & Effective Communication Strategies
- Integrating Strategies to Effectively Cope with Difficult Situation
As a facilitator of this group, I will say that one vital component of the program is that it helps youths begin to take a closer look at themselves as a system of different elements (thoughts, emotions, sensations) working toward an outcome.

Instead of continuing to see things action-reaction, they are able to see a sequence of actions that create one behavior. In effect, and in all simplicity, problem solving just seems more realistic when they try to address the issues than when “things just happen.”

Eugene
As you may imagine, it is quite a task to create an opportunity for adolescents to slow down enough to begin to understand themselves in the scope of influence, impulse and choice.

Such a task is ever more delicate when life has delivered to these youths an injury likely to cause changes in brain function and, thus, changes in their ability to successfully navigate through difficult situations.

Eugene
Youths said about Emotional Regulation:

- “It’s (the class) not how I thought it’d be…I thought it would be boring.” - J.M.
- “We get to talk about our day, and learn to stay out of trouble.” - M.M.
- “This stuff helps us to change the way we look at things so that people can change how they see us.” - M.H.
- “We’re actually learning different things about ourselves to keep us straight.” - J.R.L.

Parents said about Emotional Regulation:

- “I’ve seen a change in him already. I see him calmer and like it’s sinking in.” - L.C.
- “So far, she’s talked to me about what she’s learning and she’s liking it.” - F.T.
- “Now, I can see him talking his time to think; he’s more patient.” - R.R.
Anecdote #1

It was the fifth session of the group, where everyone had come in as usual, except for Student X. He straggled in a little behind everyone else. Not only that, but upon entering the room and finding his usual seat, he lumped himself down and placed his head down on the desk. A review of previous material was conducted and student X would only participate with shoulder shrugs and by nodding his head.

As discussions began on the week’s topic (caring), Student X raised his hand followed by his head, and explained that his current thoughts were of his father who recently passed away. He explained that when his mother informed him of the death, he was in disbelief and immediately felt rage and anger. He reported a need to hit something and began to hit his bed with his fists.

Later, after calming down, Student X began to look through his clothes drawer at home for a picture of his father. While doing so, he expressed that he found a STOPP card and expressed that since that day, he keeps that information in his wallet along side of his father’s picture to remind him of his father as well as what behavior his father would want to see from him.
Anecdote #2

It was the first session and usually on first session, kids are very introverted and unsure of what to expect. As the session went along, one noticeably quite individual, Student Q, was asked to share her thoughts and feeling regarding anger and emotions. She had no response. This went on for several weeks despite efforts to get her to contribute. Finally, during session, six (perceptions), Student Q spoke and expressed that she was scared of everyone in there. It being her first time involved in such a course, she explained that her perception was that everyone in there was “bad.”

This caused the entire group to relax a bit as they all laughed together. Other group members explained that they believed that the reason she did not participate was because of a speech impediment. Later, Student Q expressed that from that moment, she has been more aware of how her behaviors may give the wrong impression. This played an important role in discussing non-verbal communication.
The Probation Department provides a parenting component: “Parenting with Dignity” in which parents of youth in the Challenge Academy learn about the impact of TBI, about adolescent brain development and the importance of reinforcing skills taught, as well as engaging in activities with their sons and daughters that will enhance cognitive functioning.

Parents comments about Parenting with Dignity:
- “I have learned that my son is a good kid and will be a good man and I need to be more of a mentor and example.” - A.C.
- “I learned how to better manage situations that, as a family, we may have.” - J.L.
- “I need to communicate better if I want to be a better parent and understand my child.” - P.B.
Preliminary results indicated that youth who participated in the pilot project have had more than a 75% decrease in referrals to security by self or staff and in injury to self or others.
The overall recidivism rate for youth that participated in YSTEP: 23% were re-referred for a subsequent criminal offense. 16% were re-referred for violating conditions of their probation.

60% of participants did not incur a new referral which may suggest that skills acquired by participants may have aided in improved decision making and in better understanding of causal relationships allowing them to avoid criminal actions that may have led to being re-referred to the justice system.
The rate of Emergency Department visits for sports and recreation-related injuries with a diagnosis of concussion or TBI, alone or in combination with other injuries, rose 57% among children & youth.
Concussion awareness

“Now promise me you will all be very careful.”
https://www.youtube.com/watch?v=ZMsLT9yPg9w
Prevalence of TBI Among Young Offenders in Custody

The Journal of Head Trauma Rehabilitation recently published “The Prevalence of TBI Among Young Offenders in Custody: A Systematic Review.” The article examined the prevalence of TBI among young people in custody compared with estimates within the general youth population. Ten studies were identified for the review. Studies showed a range from 16.5% to 72.1% of the youth in jail have a head or brain injury, with a rate of 100% reported for young people sentenced to death. The article notes that engaging in certain behaviors such as aggression, antisocial behavior, and criminal activities may result in a greater risk of TBI, but does not imply a link between TBI being a cause for youth in jail.

The authors’ suggest, to support the development of youth justice practices, activities such as evaluation of interventions and practices could help meet the needs of young people who experience TBI and address the needs of the vulnerable youth.

The Journal of Head Trauma Rehabilitation recently published “Traumatic Brain Injury and Juvenile Offending: Complex Causal Links Offer Multiple Targets to Reduce Crime.” The article discusses how studies show children who survive TBI are likely to become adults with behavioral problems, linked to psychiatric disturbances, and that the rates of TBI are very high in offender groups. In addition, studies show that young people with TBI being adjudicated may have poor levels of communicative ability which could place them at a disadvantage in legal proceedings. The authors’ argue that screening for, and managing, the effects of TBI may improve the well-being of affected young offenders and potentially reduce crime.