

# Language Impairments in Youths With Traumatic Brain Injury: Implications for Participation in Criminal Proceedings

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As many as 30% of incarcerated juveniles have a history of traumatic brain injury (TBI). Moderate or severe TBI is associated with a high risk of impairment in language comprehension and expression, which may have profound effects on juveniles' ability to understand and express themselves in criminal proceedings. In this article, we review common language impairments in youths with TBI and discuss potential effects of these impairments on 3 stages of US criminal proceedings: (1) initial encounter with law enforcement; (2) interrogation and Miranda rights; and (3) competence to undergo trial proceedings. We then describe language assessment tools and procedures that may be helpful in legal contexts. Our aim was to inform clinicians and legal staff working with juvenile defendants with TBI, with the long-term goal of developing empirically based guidelines to ensure that juvenile defendants with TBI can fully and effectively participate in criminal proceedings. **Key words:** *adolescent, brain injury, child, criminal proceedings, juvenile crime, language*

THE COSTS OF criminal justice in the United States are staggering. In 2011, total government spending on the criminal justice system exceeded \$261 billion.<sup>1</sup> By the end of 2012, more than 6.9 million individuals were supervised by adult correctional systems, nearly 1 of every 35 adults.<sup>2</sup> Perhaps, unsurprisingly, the criminal justice system supervises a comparably large population of youths: in 2007, the youth detention rate was 336 per 100 000, approximately 10 times the rates in other first-world countries,<sup>3</sup> and the arrest rate for youths aged 10 to 17 years exceeds 4000 per 100 000.<sup>4</sup> It is well established that rates of traumatic brain injury (TBI) are significantly higher in these correctional populations than in the general population, and an estimated 30% of incarcerated youths have a preincarceration his-

tory of TBI.<sup>5–7</sup> For youth offenders, this percentage may approach 50%.<sup>8</sup>

Moderate or severe TBI in childhood or adolescence can cause a host of behavioral and cognitive deficits.<sup>9</sup> Among these deficits, one with significant potential effects on legal interactions is impairment in language comprehension and production.<sup>10</sup> Because criminal justice proceedings are complex social interactions that require high-level cognitive abilities, these proceedings have the ready potential to present significant challenges for youths with TBI. Possible links between language impairments and criminal behavior have been discussed in the legal and social science literature since the 1920s,<sup>11</sup> yet there are no uniform guidelines for managing juvenile defendants with language impairments.

In this article, we review common language impairments in youths with TBI and discuss implications for 3 phases of criminal proceedings: (1) initial encounter with law enforcement; (2) interrogation and Miranda rights; and (3) competence to undergo trial proceedings. We then consider methods of language assessment that could inform legal proceedings for juvenile defendants with TBI. Our aim was to inform clinicians and legal staff working with juvenile defendants and ultimately to develop empirically based guidelines to ensure that juvenile defendants can fully and effectively participate in criminal proceedings. The article is based on proceedings in the United States, which has the highest rate of

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youth incarceration in the world<sup>12</sup>; however, although criminal proceedings in other countries can differ significantly from those in the United States, the basic language challenges are likely to be similar because of their underlying reliance on the same set of language and cognitive abilities.

## COMMON LANGUAGE IMPAIRMENTS IN YOUTHS WITH TBI

Aphasia is rare after TBI, unless there is focal damage to the left hemisphere, but problems in language comprehension and expression are common after moderate or severe TBI in childhood or adolescence and are consequences of deficits in cognitive functions such as attention,<sup>13</sup> speed of thinking,<sup>14</sup> working memory,<sup>15</sup> declarative learning,<sup>16</sup> and executive functions.<sup>17</sup> In the following section, we summarize 2 broad categories of language problems reported in children and adolescents with TBI: problems in understanding spoken and written language, and problems in expression (speaking and writing). We then consider how these impairments can affect participation in criminal proceedings. For the purposes of this article, we are focusing specifically on language rather than overall communication. It is important to recognize, however, that justice system interactions can be profoundly affected by other aspects of communication such as auditory processing disorders<sup>18</sup> and disorders of speech production.<sup>19</sup>

### Language comprehension

Juvenile defendants who sustained a TBI early in development may have poor basic language decoding skills and slow information processing speed,<sup>20</sup> which, combined with verbal learning problems that affect vocabulary acquisition, can result in poor reading and listening comprehension.<sup>21</sup> While children with TBI generally improve in their abilities as they develop, there is evidence that the earlier the injury, the greater the effects on language later in life.<sup>22</sup> The most significant deficits are in comprehension of complex language forms (eg, sentences with embedded clauses)<sup>23</sup>; comprehension of abstract language, such as idioms, sarcasm, and humor<sup>24–28</sup>; deriving the gist or main meaning of discourse<sup>29</sup>; and understanding long or rapidly spoken sentences that tax working memory.<sup>23</sup> Language comprehension in youths with TBI also may be affected by impairments in emotion recognition (eg, recognizing the difference between an irritated facial expression and anger) and theory of mind (appreciating that others have thoughts and these thoughts influence their actions). Facial expressions and vocal tone, in particular, can be critical cues to a speaker's intent, and failing to understand these cues can lead to misunderstandings and inappropriate reactions. Likewise,

what we believe about others thoughts and intentions influences how we understand what they say and write, and the inability to take another's perspective can lead to problems not only in understanding what that person is saying (eg, if you know something about how police officers think, you can understand that "What are you kids up to?" might refer to illegal activities) but also in understanding why they say it (eg, that the police officer is not making social chit-chat).

### Language expression

Children and adolescents with TBI may have impairments in specific language functions such as vocabulary<sup>21</sup> or verbal fluency,<sup>30,31</sup> but the most debilitating problems may be deficits in pragmatic language.<sup>32</sup> Pragmatic language impairments include producing less information than peers,<sup>33</sup> poor organization of discourse,<sup>34</sup> and difficulty using language for social functions such as explaining one's actions or negotiating for privileges.<sup>26</sup> As with language comprehension, language expression can be affected by impairments in emotion recognition and theory of mind, particularly in saying something in a way that will meet the needs of a listener (eg, adding details to your story because you recognize that the listener did not see what you saw).

## THE LEGAL FRAMEWORKS OF THE CRIMINAL JUSTICE SYSTEM

A basic understanding of the US legal framework is necessary to fully appreciate the challenges youths with TBI can face within the criminal justice system. The United States is a federalist nation in which governmental authority is divided between the various states governments and the unifying federal government.<sup>35</sup> The powers of the federal government are defined by the US Constitution, and all remaining government powers are reserved for the state governments. One of the most important and historic state powers is the so-called "police power," which gives a state the power to pass laws that concern the welfare and safety of the state's citizens.<sup>36,37</sup> This police power is the basis for the state's abilities to define and punish criminal behavior.<sup>36,37</sup> Therefore, each of the 50 states passes and enacts its own criminal statutes. This is significant in that (1) one state may have different criminal laws than those of another; and (2) the federal government generally lacks the ability to create a national legal definition for any given crime. The police power is not limitless, however; under the US Constitution's Fourteenth Amendment, state laws must comply with the Bill of Rights. This has allowed the US Supreme Court, which determines whether or not laws are constitutionally valid, to define many important rights related to different stages of criminal proceedings. These basic rights (right to notice and counsel, and right against

self-incrimination) apply both to standard criminal justice proceedings and to juvenile court proceedings.<sup>38</sup> In the following sections, we consider a number of the most important stages in the criminal procedure process and the potential challenges that these contexts could create for youths with TBI.

### **INITIAL ENCOUNTER WITH LAW ENFORCEMENT**

A youth's first encounter with the language demands of the criminal justice system would most likely be an encounter with police. Initial encounters with police are exceedingly common: at least 20 million traffic stops alone occur in the United States every year.<sup>39</sup> Such an encounter presents the opportunity for 2 possible legal outcomes. The first would be either a "seizure" or an arrest. The second would be a brief detention, commonly referred to as a "Terry stop," after the name of the US Supreme Court case in which such detentions were described.<sup>40</sup> In a Terry stop, a law enforcement officer may stop a person for a brief time and take additional steps to further investigate the matter.<sup>41</sup> Both of these outcomes fall under the US Constitution's Fourth Amendment, which protects an individual against unreasonable searches and seizures, but there is an important and significant distinction between these 2 outcomes. To make a constitutionally valid arrest, a law enforcement officer must have probable cause of criminal activity.<sup>40</sup> To make a valid Terry stop, however, a law enforcement officer must have reasonable suspicion of criminal activity. Because Terry stops are "less infringing" on an individual's Fourth Amendment rights, they require "less" justification.<sup>40</sup> Ultimately, both outcomes must be reasonable: did the law enforcement officer, based on the circumstances and his or her own rational inferences, have reasonable justification to make the encounter and reasonable justification to make the arrest or the Terry stop? The standard for reasonableness is an objective one. The court considers whether or not a normal person of "reasonable caution" would have acted the same way under the circumstances.<sup>40</sup> Therefore, we can conclude that, to optimally cooperate with law enforcement individuals during these encounters, a youth must have the language capabilities necessary to effectively communicate in a way that would satisfy a reasonably objective perspective.

Unfortunately, however, the language deficits often exhibited by youths with TBI can detrimentally affect this required level of communication. For example, poor basic language skills and slower processing speed could impair a youth's ability to follow and answer a line of questions. Law enforcement questioning during these encounters is almost always a series of specific questions designed to elicit closed answers,<sup>42</sup> so a youth with

TBI-related language impairment might not be able to quickly and accurately respond. These linguistic deficits could (reasonably and objectively) appear to be hesitation, defiance, or obstinacy; indeed, language competence problems are often perceived as a behavioral or conduct issue.<sup>8</sup> Difficulty in comprehending implied speech could lead a youth with TBI to answer questions inappropriately, thereby providing the wrong impression and affecting the law enforcement officer's viewpoint and rational inferences. For example, the question, "You and your friends having a good time tonight?" does not imply a literal answer, so a youth who answers literally might invite further questioning and suspicion. Impairments in emotion recognition and comprehension of nonverbal cues could compound the youth's ability to effectively communicate. For example, "You and your friends having a good time tonight?" means one thing when asked with a neutral tone of voice and deadpan expression and another when asked with a cheerful tone of voice and a smile. If a youth with TBI fails to recognize the difference in communicative intent, his or her interaction with the officer will be ineffective. Finally, impaired language could hinder a youth's ability to produce succinct, meaningful answers to law enforcement questions. Because the law enforcement questioning will be of an interview nature, a youth must be able to decide what questions are most important and what answers are most appropriate. If TBI impairs this process, then the youth's answers may be inappropriate: they may reveal too little or too much information, and the information may or may not be relevant.

In initial encounters, what ultimately matters is how a law enforcement official reasonably perceives the situation; thus, youths with TBI-related language impairments may face additional difficulties in what is an already-challenging communication setting. If a language impairment causes the youth to respond or act inappropriately, this could lead to a negative perception that influences the law enforcement officer's course of action. A Terry stop could become a full arrest, or an arrest could lead to an additional charge for failing to comply with the officer's requests. Therefore, youths with TBI-related language impairments are at a real risk of legal consequences if their impairments prevent them from effectively communicating under a reasonably objective standard.

### **INTERROGATION AND MIRANDA RIGHTS**

Perhaps, the most widely recognized language-based component of the US criminal justice system is the Miranda rights. Miranda warnings are a series of warnings that law enforcement officers must give to an individual who is in custody and subject to interrogative questioning.<sup>43</sup> The US Supreme Court established the

Miranda warnings to ensure that an individual who is interrogated by law enforcement officers is aware of his or her constitutional rights against self-incrimination. According to the Supreme Court, Miranda warnings must contain 3 components. First, the warnings must, "in clear and unequivocal terms,"<sup>43</sup>(pp467-468) inform the individual of his or her right to remain silent. Second, the warnings must explain that anything the individual said could be used against him or her in court. Third, the warnings must inform the individual that he or she has a right to a lawyer.<sup>43</sup> Anyone who wishes to waive these rights must do so knowingly and willingly or else the waiver is invalid.

Miranda warnings serve as a basis for subsequent Supreme Court decisions, and youths now enjoy expanded legal protection. For example, law enforcement officials must now take the age of the individual into consideration when administering Miranda warnings.<sup>44</sup> However, the US Supreme Court affirmed that no "formulaic" or specific language was required when delivering Miranda warnings and that Miranda warnings did not need to be delivered in any particular order.<sup>45</sup> Therefore, each state or lower jurisdiction is free to develop its own Miranda warnings and procedures as long as they are equivalent to the Supreme Court's rulings. This has resulted in considerable variation among Miranda warnings. Rogers et al<sup>46,47</sup> analyzed hundreds of Miranda warnings and found significant variability in terms of reading level, overall length, and even content.

Competent comprehension of Miranda warnings presents a clear challenge for youths with TBI. Even for healthy adults, comprehension of Miranda warnings and the underlying concepts is hugely variable,<sup>48</sup> and research has shown that individuals with mental illness or intellectual disabilities show poorer understanding of Miranda warnings.<sup>47,49,50</sup> Miranda warnings hinge on an ability to understand abstract concepts (eg, legal rights, self-incrimination), to consider the effects of current actions on future events (eg, if I tell this police officer certain things, those things might be used against me later on), and to use theory of mind to make predictions about others' behavior (eg, the police officer does not know exactly what I know, so if I tell him something, he might interpret it differently than I do), all of which could be impaired in youths with TBI. In a linguistically challenging context such as this, there is a risk that a youth with TBI will resort to minimal or "filler" responses such as "yeah," "no," "sure," or "uh-huh."<sup>8</sup> Not only do responses such as these seriously undermine the legal significance of Miranda warnings but the responses might also be interpreted in a way that reflects poorly on the youth. Miranda warnings that are given orally might be especially difficult for youths with TBI who have impaired comprehension and processing speed and the fact that the warnings are almost always given in a distracting

and emotionally stressful environment could further tax a youth's linguistic abilities.

Miranda warnings serve an important constitutional and procedural role in the criminal justice system. If youths with TBI-related language impairments cannot comprehend the warnings, then doubts arise over whether that role is adequately fulfilled. Because the language of Miranda warnings is already exceptionally difficult, in both substance and form, youths with TBI-related language impairments are likely to find the language challenging to process. Such challenges could both compromise a youth's immediate predicament (eg, failing to remain silent, or revealing self-incriminating information) and prevent him or her from receiving the constitutional protections to which he or she is entitled.

## COMPETENCE TO UNDERGO TRIAL PROCEEDINGS

Trial proceedings and interactions with lawyers also create potential challenges for juvenile defendants with TBI. The US Constitution guarantees criminal defendants the right to representation by a lawyer.<sup>51</sup> To be competent to stand trial, an individual must have "sufficient present ability to consult with his lawyer with a reasonable degree of rational understanding" and a "rational and factual understandings of the proceedings against him."<sup>52</sup> This same legal standard is used for a guilty plea or a plea waiving the right to be represented by a lawyer.<sup>53</sup> Scripts for these pleas are generally created at a state level and implemented throughout the state, and they consist of a dialogue between the defendant and the judge in which the judge attempts to ensure that the defendant is acting knowingly and willingly (D. Schultz, JD, Oral communication, 2013). As was the case for Miranda, however, the US Supreme Court explicitly declined to require a standard procedure for determining competency, instead, leaving that task to the individual states.<sup>53</sup> Competency standards for juveniles vary considerably but are often centered on intelligence testing and psychiatric screening.<sup>54</sup> These broad guidelines, combined with the considerable degree of discretion that judges normally have in ruling on a defendant's competency (D. Schultz, personal communication, 2013), mean that judges will not necessarily consider a defendant's language ability as competency is decided.<sup>55</sup>

Both interacting with a defense lawyer and understanding the various pleas in trial proceedings pose heavy language demands. In addition to the demands mentioned earlier, interacting with a lawyer to understand trial proceedings and to provide facts and narratives relevant to the defense relies heavily on pragmatic language skills such as knowing how much and what to say in this particular context.<sup>11,56</sup> Although

lawyer-client interviews should ideally be more relaxed and accommodating than an encounter with law enforcement personnel, the extent to which the lawyer accommodates the defendant's language impairments will depend, first, on whether the lawyer actually knows the impairments exist, second, on his or her knowledge about how language impairments manifest in that specific context, and, third, on the lawyer's skill in making accommodations. In addition, the questioning necessary to produce the required facts may include the sort of closed-answer questions that can impair comprehension and impede a youth's ability to effectively communicate.<sup>42</sup> Language impairments can also lead lawyers and other justice personnel to make negative judgments about the defendant. As LaVigne and Van Rybroek stated:

Pragmatics is especially significant for juvenile and criminal justice practitioners, not to mention the defendants themselves, because deficits in this aspect of language and language use are common among those who come under the jurisdiction of juvenile and criminal court. At the same time many of the personal judgments the legal system makes about defendants are actually rooted in pragmatics.<sup>11(p56)</sup>

Language problems undoubtedly affect competency determinations as well. Significantly, a survey of National Register-listed juvenile forensic assessment experts<sup>54</sup> revealed that formal or informal language evaluation was not included in the battery of most common competency screenings. While language tests may be administered as part of a standard forensics assessment, the fact that language is generally not a standard component of competency testing could indirectly affect the validity of the screenings. With this in mind, we next discuss language assessment for youths with TBI that might be implemented within the criminal justice system.

### **LANGUAGE ASSESSMENT IN JUVENILE DEFENDANTS WITH TBI**

The following discussion has several caveats. First and most important, to our knowledge, there are no standard guidelines for either language screening or full language evaluation for youths in the criminal justice system. Ideally, given the high estimated prevalence of poor language and literacy skills among juvenile defendants as a whole,<sup>8</sup> every youth would be screened at first contact with the justice system. This would inform all subsequent legal proceedings and indicate when there is a need for extra efforts to ensure that the defendant completely understands all proceedings and can express him-self or herself effectively. Language evaluation also could identify youths who would benefit from approaches such as the response-to-intervention framework recently proposed for youths in the criminal justice system.<sup>57</sup> Absent standard guidelines, the following sec-

tion describes tests that are commonly used by speech-language pathologists in English-speaking countries and have features that lend themselves to the criminal justice context. We focus here on assessment for a specific purpose: to determine whether the defendant is able to meet the language demands of pretrial proceedings. This is not assessment for the purpose of *diagnosing* language impairment. In contexts such as school evaluations, a diagnosis of language impairment often is made if the total score on a test meets a certain criterion (eg, is 1 or 2 SDs below the mean of the standardization sample). Here, we are less concerned with diagnosis and more concerned with characterizing language comprehension and expression.

A second caveat is that standardized language tests are constructed to reflect typical language demands at a given age, not specific language content, form, and use in criminal proceedings. Most standardized language tests are not structured to allow examination of specific language structures (eg, whether the defendant understands passive construction or embedded noun-phrase clauses in specific legal text in a noisy courtroom under time pressure), so scores from a standardized language test might not predict how well a defendant will understand and use written and spoken language in actual criminal proceedings.

A third caveat is that, at the time of writing, there are no standardized language tests that explicitly consider youths with TBI (eg, that factor TBI-related cognitive impairments into test construction include youths with TBI in the standardization sample). Lack of TBI-specific tests is not a trivial issue, as language impairments may be easily over- or underestimated if test stimuli do not control for nonlanguage cognitive impairments that can affect test performance (eg, presenting stimuli in a distracting background or in a way that increases working memory load).<sup>58,59</sup>

With those caveats in mind, 2 widely used comprehensive language assessments might be helpful in evaluating juvenile offenders: the Comprehensive Assessment of Spoken Language<sup>60</sup> and the Clinical Evaluation of Language Fundamentals (CELF-5),<sup>61</sup> along with its sibling, the CELF-5 Metalinguistics test.<sup>62</sup> Both test batteries are normed for children aged 5 to 21 years, and both are a collection of tests that can be administered individually to test specific aspects of language function (eg, following directions, comprehension of spoken paragraphs). The benefit of using a battery of individually standardized tests is that assessment can be tailored to the individual needs and characteristics of the defendant. For example, if the defendant has to understand making inferences, the inference comprehension test can be given alone; likewise, if understanding paragraph-length spoken material is a concern. While administration of the full battery can take more

than 60 minutes, most individual tests take only 10 or 15 minutes to administer and thus might be feasible when assessment time is limited.

An earlier version of the CELF is available in Spanish,<sup>63</sup> and a Spanish version of CELF-5 likely will appear in the future. Both test language functions that are common in legal settings, such as understanding figurative language, making inferences, interpreting ambiguous statements, and deriving meaning from context. Standardization samples included children and adolescents with a wide range of abilities and standardization samples were large; however, age bands contained unequal numbers of examinees. For example, the CELF-5 Metalinguistics test was normed on 100 children at each of 5 to 12 years of age and only 100 individuals aged 17 to 21 years. Although neither test included youths with TBI, the authors of both tests described attempts to structure tests and items to minimize cognitive demands.

A third comprehensive language test to be published in 2015 is the Test of Integrated Language and Literacy Skills (TILLS).<sup>64</sup> The TILLS might be of particular interest for legal purposes because it evaluates spoken and written language, includes tests of connected language (eg, discourse), and integrates language testing with testing of immediate and delayed verbal memory, which commonly are impaired in youths with TBI.<sup>16</sup> Two of the TILLS authors previously published the Pediatric Test of Brain Injury<sup>65</sup> and that perspective informed TILLS construction. As with the Comprehensive Assessment of Spoken Language and the CELF, subparts of the TILLS were normed as individual tests and thus can be given alone.

A critical consideration in interpreting standardized test scores is that scores may be lower in youths from low-income populations, independent of whether the adolescent has a TBI, and these populations are overrepresented in the criminal justice system. Also, bilingual children and youths may have lower standardized test scores that do not indicate language impairment but rather typical language abilities in bilingual speakers. Regardless of the underlying cause of test differences, however, youths with low language test scores are at risk for the problems described earlier in this article.

The most helpful language assessment in criminal proceedings may be systematic evaluation of comprehension of actual court documents and spoken language, supplemented by results of any standardized language and neuropsychological tests that have been administered. Test data should be considered in the context of educational, social, and medical history information from parents, teachers, or other service providers and results of any previous testing (eg, tests done to obtain support services in school).

## LOOKING AHEAD

Despite the potential difficulties that the criminal justice system can present to adolescents, there are clear indications that the law is beginning to recognize the value and utility of scientific information in the development of youth-oriented justice. For example, in recent decisions to abolish the death penalty and mandatory life imprisonment for adolescent offenders, the US Supreme Court noted that the decisions were based in part on biological and social science findings.<sup>66</sup> At the state level, governments are using research evidence to create comprehensive, community-based programs designed to optimize outcomes for at-risk youths,<sup>67,68</sup> including several programs designed specifically to identify and accommodate youths with TBI.<sup>69,70</sup> Finally, state-level judicial advisory committees make considerable efforts to update language used in judicial colloquies and other courtroom language, to accommodate individuals with language impairments (D. Schultz, personal communication, 2013). Significant though these advances are they do not obviate the language demands within the criminal justice system, particularly in the context of extraordinarily high rates of poor language skills among youth defendants in general.<sup>8</sup> Systematic language assessment, tailored to specific characteristics of legal proceedings, would inform law enforcement individuals, lawyers, and judges and would help juveniles with TBI navigate the complex and challenging legal language of the criminal justice process. Not only would this change help mediate the additional difficulties that youths with TBI-related language impairments face, but it would also move criminal justice one step closer to a system in which the legal rights of all youths are fully and faithfully protected.

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