

Fetal Alcohol Spectrum Disorders in the Criminal Justice System: A Review

Jerrod Brown, Jeffrey Long-McGie, Judge Anthony Wartnik, Pamela Oberoi, Janina Wresh, Erv Weinkauff, Gennae Falconer, & Alyse Kerr

Fetal Alcohol Spectrum Disorder (FASD) is a continuum of conditions occurring as the result of prenatal alcohol exposure that can include intellectual deficits, interpersonal and social issues, and a host of adverse medical and mental health consequences. Neurological impairments found in individuals diagnosed with FASD are pervasive across the lifespan and are often accompanied by multiple co-morbid disorders. Some of these co-morbid conditions may include: Attention Deficit/Hyperactive Disorder (Burd et al., 2003), Reactive Attachment Disorder, Oppositional Defiant Disorder, Bi-Polar Disorder, and Conduct Disorder (Green et al., 2009). FASD-related consequences could also lead to homelessness, serious mental health concerns, substance use issues, and an increased risk of violent behavior (Steinhausen & Spohr, 1998; Streissguth et al., 1996). Additionally, individuals with FASD may exhibit difficulties with interpersonal relationships, particularly with regard to the cause and effect of behaviors toward others (Rasmussen, Andrew, Zwaigenbaum, & Tough, 2008). They may also exhibit impulsive behaviors (Mattson & Riley, 2000) or may demonstrate an inability to learn from past mistakes (Rasmussen et al., 2008). They may be at a higher risk to commit theft (Rasmussen & Wyper, 2007), suffer from memory deficits (Kodituwakku, 2007), and are at an increased risk for suicide (Streissguth et al., 1996). It has been estimated that as many as 90% of individuals with FASD suffer from a co-occurring mental health condition (Barr et al., 2006; Famy et al., 1998; O'Connor et al., 2002). Individuals with FASD are also often abandoned or neglected as children, struggle academically, and ultimately end up in the criminal justice system. In order to prevent ongoing involvement in the criminal justice system, the disabilities these individuals suffer from must be recognized and treated using techniques such as simplified and concrete terminology and frequent repetition.

FASD in the Criminal Justice System

Individuals with FASD can remain an ever-present concern on the criminal justice system (Fast et al., 1999; MacPherson & Chudly, 2007). While behavioral improvement can occur with treatment (Padgett et al., 2006), the disorder is rarely diagnosed, much less understood when diagnosed. Juveniles with FASD are 19 times more likely to be incarcerated (Popova et al., 2011), and a long-term study documented 60% of the FASD participants over the age of 12 had criminal histories (Streissguth et al., 1996). With epidemiological estimates of the prevalence of FASD in the United States ranging from 1% to 5% of the population (May et al., 2009), it is obvious there is an invisible problem plaguing the criminal justice system. Additionally, individuals with FASD in correctional settings or any criminal justice environment can be highly suggestible and often associate with negative peer groups. Sadly, many with FASD never know they have the disorder, which may be one of the contributing factors as to why so many end up behind bars.

Sexual Offending

A major concern for the criminal justice system is the increased likelihood of inappropriate sexual behavior(s) and other illegal activity by individuals with FASD (Brown et al., 2010). In a longitudinal study of 473 individuals with FASD, 65% of the males over the age of 12 engaged in problematic sexual behavior (Citation). The most commonly reported behaviors included: sexual advances, sexual touching, promiscuity, exposure, compulsions, voyeurism, and obscene phone calls (Streissguth et al., 1996). Individuals with FASD often experience problems with recognition of and respect for interpersonal and social boundaries. This can result in an inability to adequately understand the socio-legal meaning of actions. For example, poor executive functioning may present as behavioral problems related to attention and judgment that can manifest in unintentional rule breaking, confabulation, or inappropriate touching. Such issues become particularly noticeable in adolescence, as sexual urges awaken and the gap in the cognitive and chronological age of this population increases (e.g., an 18 year old who is developmentally functioning at the level of a 6 year old) (Fast & Conry, 2009). Poor executive functioning is often on display with respect to the crimes these individuals commit. Often, individuals with FASD will commit impulsive crimes that are clearly illogical to a normal outside observer with little or no evidence of remorse (Douglas, 2010; Ladd v. State, 1999; People v. Michael Anderson, 2012; State v. Galloway, 2005).

Confabulation

Another FASD-related issue that requires consideration by the criminal justice system is the subject of confabulation. Confabulation is the act of honestly lying, or providing information based on inaccurate memories, regardless of whether those memories were provoked by questions or arose spontaneously (Moscovitch, 1989). It is not uncommon to create and hold false memories, or to even participate in the act of self-deception (Brown, Long-McGie, Oberoi, Wartnik, & Wresh, Weinkauff, & Falconer, 2014).

Confabulation is simply an act of filling in the holes or gaps in memory, creating a semblance of coherency, and improving the narrative (Gallagher, 2003). The topic of confabulation in connection to FASD is especially important for criminal justice professionals (Davis et al., 2011). Confabulation can lead to inaccurate testimonies, incorrect convictions, and

subsequent wrongful incarcerations (Santtila et al., 1999). Individuals with FASD have also been found to have an impaired adjudication capacity and many lack the understanding and appreciation of their Miranda rights (McLachlan et al., 2014). Furthermore, individuals with FASD may exhibit a diminished ability to understand legal rights (Goldstein et al., 2003; Grisso, 2003; McLachlan et al., 2011; Redlich et al., 2003; Viljoen & Roesch, 2005), present with impaired intellectual ability (Davis et al., 2011; Kodituwakku, 2007), and may have a tendency to make false or inaccurate statements during questioning by law enforcement (Kassin et al., 2010; Redlich et al., 2011).

Early Detection and Identification

Identification and behavioral intervention is critical for those living with the challenges of FASD (Grant et al., 2004; Rasmussen, 2005). Unfortunately, many criminal justice professionals lack awareness and adequate training pertaining to the topic of FASD (Burd et al., 2003; Burd et al., 2010; Clarren & Lutke, 2008; Wedding et al., 2007). Many individuals with FASD enter the criminal justice system at an early age. Only 4% to 5% commit their first crime after the age of 20 (Lutke, 2004). If early detection and intervention are not in place, a potential situation for future illegal behavior is more likely. Statistics show that individuals with FASD are 19 to 40 times more likely to be involved in the criminal justice system (Malbin, 2004; Popova et al., 2011). Unfortunately, the data suggests that individuals already involved with the criminal justice system in North America are not being identified with FASD. Out of the three million correctional inmates surveyed, only one carried an FASD diagnosis (Burd et al., 2004). These low numbers, in comparison to the high numbers that result from a deliberate screening of inmates, highlight the invisible nature of the disorder. Additionally, the facial features associated with Fetal Alcohol Syndrome (FAS) are often absent in those with an FASD diagnosis. Thus, the invisibility of the disorder is heightened, given these individuals may present as deliberately breaking rules and violating probation (Douglas, 2010). In reality, they are often unable to grasp the nature of causality or make adequate connections between their choices and the resulting consequences.

Ultimately the consequences of FASD, as well as the lack of understanding about the disorder, are more likely to result in criminal conviction(s) and subsequent jail or prison sentences (Brown et al., 2010). Incarceration for individuals with FASD can lead to victimization by other inmates and may increase involvement with socially problematic peer groups (Mitten, 2004). This could be attributed to the higher levels of suggestibility among persons with FASD (Clark et al., 2004; Fast & Conroy, 2004; Kassin et al., 2010; Perske, 1994). In many instances, these highly vulnerable individuals may be at an increase for higher recidivism rates. Often, they have been victimized while incarcerated and thus are at greater risk for acting out criminally in the future. The incarceration of individuals with FASD can heighten the tendency toward criminal behavior upon release if support systems are not in place. Often this propensity toward recidivism can promote more serious criminal behavior than the original offense (MacRae et al., 2011). Intervening by identifying the condition and initiating behavioral intervention early as is critical for this population, as youth with FASD show earlier involvement with the criminal justice system compared to non-FASD children (McLachlan, 2012).

As mentioned previously, it may be difficult to identify FASD by simply observing an individual. Some indicators of FASD may be immaturity (Fast & Conry, 2009), impulsivity

(Brown et al., 2010), a history of adoption or multiple foster care placements (Streissguth et al., 2004), early age of first offense (McLachlan et al., 2014), an inability to learn from past errors (Moore & Green, 2004), lack of remorse, or the ability to express remorse, inadequate interpretation of social cues and idioms (Boland et al., 1998), a history of academic failure, issues with everyday tasks of living (Conry & Fast, 2000), difficulties obtaining/maintaining employment (Lutke, 2004), and a history of offenses associated with impulsivity and opportunity (McDonald et al., 2009). Additionally, when examining the history of an individual, it is important to assess whether the biological mother drank alcohol during pregnancy (West et al., 1990; Little & Wendt, 1991). It is the impact of the alcohol on the fetal brain that causes the damage and dysfunctions in the brain, which can lead to any or all of the above symptoms and consequences. A first step in improving the quality and efficacy of preventative and rehabilitative services for individuals diagnosed with FASD is an increase in professional education, with the objective of increasing awareness regarding the causes and consequences associated with this condition (Brown et al., 2010).

Conclusion

Education regarding the significance of FASD on the criminal justice system would help to promote awareness and sensitivity among criminal justice professionals (e.g. correctional officers, judges, law enforcement, lawyers, and probation officers) who may regularly come in contact with individuals diagnosed or suspected of having FASD. Once identified, a variety of skill-based interventions can be implemented with the goal of helping the individual with FASD live a more pro-social and productive life. Individuals who are incarcerated and struggle with FASD are deemed to be at high risk for recidivism after being released into the community, and typically require special consideration in order to prevent further criminal activity. Hence, current practices in working with these individuals involved in the criminal justice system appear to be relatively ineffective. Educating professionals in the early identification and subsequent referral for diagnosis is critical, as well as initiating evidence-based treatments, and long-term monitoring of FASD is necessary to improve outcomes for the individual as well as for his or her community (Fast et al., 1999; Loock, Conry, Cook, Chudley, & Rosales, 2005; Malbin, 2004; Raine, 2002; Schonfeld, Mattson, & Riley, 2005). Fortunately, information on the signs and symptoms of FASD are now more readily available (Chudley, Conry, Cook, & Loock, 2005; Kalberg & Buckley, 2007; Peadon, Rhys-Jones, Bower & Elliot, 2009) through various online and continuing education seminars.

APPENDIX A: FASD: Possible Indicators

FASD is a complicated and often misunderstood condition among helping professionals (e.g. criminal justice, educational, fire, medical, mental health, and social service professionals). Individuals living with the everyday challenges of FASD often struggle to cope with an array of secondary conditions. These comorbid conditions can greatly impact function, contribute to other adverse outcomes, and negatively influence a cycle of destructive behaviors. It is crucial for helping professionals, especially those working in the helping professions to recognize the warning signs for FASD. The following is a list of possible indicators of FASD:

- Chronic Homelessness
- Consistent History of Unstable Relationships
- Consistent Involvement with the Criminal Justice System
- Consistently Confabulates
- Easily Influenced by Others
- Educational and Learning Deficits
- Failure to Comply with Probation and Conditions of Release
- Failure to Learn from Past Mistakes
- History of Adoption
- History of Prostitution
- Impaired Memory
- Inability to Maintain Employment
- Inflexible Behavior
- Lack of Insight
- Money Management Issues
- Multiple Childhood Mental Health Diagnosis (e.g. Attention Deficit/Hyperactivity Disorder (ADHD), Conduct Disorder (CD), Oppositional Defiant Disorder (ODD), Reactive Attachment Disorder (RAD), etc.).
- Multiple Treatment Failures
- Multiple Unexplained Medical Problems
- Poor Coping Skills
- Poor Impulse Control
- Rage Control Problems
- Sexually Inappropriate Behaviors
- Sleep Related Problems
- Social Boundary Violations
- Special Education Involvement
- Substance Use Problems

Note: The above indicators are not intended to be an exclusive list and should never take the place of a comprehensive FASD assessment. No one indicator is a confirmation for FASD. The complexities associated with FASD illustrate the importance of continued education and training about these issues.

References

- Barr, H. M., Bookstein, F. L., O'Malley, K. D., Connor, P. D., Huggins, J. E., & Streissguth, A. P. (2006). Binge drinking during pregnancy as a predictor of psychiatric disorders on the structured clinical interview for DSM-IV in young adult offspring. *American Journal of Psychiatry*, *163*, 1061-1065.
- Boland, F., Burrill, R., Duwyn, M., & Karp, J. (1998). *Fetal alcohol syndrome: Implications for correctional service*. Correctional Service Canada, Corporate Development, Research Branch.
- Brown, J. Long-McGie, J. Oberoi, P., Wartnik, A., Wresh, J., Weinkauf, E., & Falconer, G. (2014). Confabulation: Connections between Brain Damage, Memory, and Testimony. *Journal of Law Enforcement*, *3*, 5.
- Brown, N. N., Wartnik, A. P., Connor, P. D., & Adler, R. S. (2010). A proposed model standard for forensic assessment of Fetal Alcohol Spectrum Disorders. *Journal of Psychiatry & Law*, *38*(4).
- Burd, L., Cotsonas-Hassler, T. M., Martsolf, J. T., & Kerbeshian, J. (2003). Recognition and management of fetal alcohol syndrome. *Neurotoxicology and Teratology*, *25*(6), 681-688.
- Burd, L., Fast, D. K., Conry, J., & Williams, A. D. (2010). Fetal alcohol spectrum disorder as a marker for increased risk involvement with corrections. *The Journal of Psychiatry and Law*, *38*, 559-583.
- Burd, L., Fast, D. K., Conry, J., & Psych, R. (2010). Fetal Alcohol Spectrum Disorder as a Market for Increased Risk of Involvement with Correction Systems. *J. Psychiatry & L.*, *38*, 559.
- Burd, L., Rachael, H., Selfridge, B. S., Klug, M. G., & Juelson, T. (2003). Fetal alcohol spectrum disorder in the Canadian corrections system. *The Journal of FAS International*, *e14*, 1-10.
- Burd, L., Selfridge, R., Klug, M., & Bakko, S. (2004). Fetal alcohol syndrome in the United States corrections system. *Addiction Biology*, *9*(2), 169-176.
- Chudley, A. E., Conry, J., Cook, J. L., Looock, C., Rosales, T., & LeBlanc, N. (2005). Fetal alcohol spectrum disorder: Canadian guidelines for diagnosis. *Canadian Medical Association Journal*, *172*(5 suppl), S1-S21.
- Clark, E., Lutke, J., Minnes, P., & Ouellette-Kuntz, H. (2004). Secondary disabilities among adults with fetal alcohol spectrum disorder in British Columbia. *Journal of Fetal Alcohol Syndrome International*, *2*(13), 1-12.
- Clarren, S. K., & Lutke, J. (2008). Building clinical capacity for fetal alcohol spectrum disorder diagnoses in Western and Northern Canada. *Canadian Journal of Clinical Pharmacology*, *15*, 223-237.
- Conry, J., & Fast, D. (2000). *Fetal alcohol syndrome and the criminal justice system*. Vancouver, BC: Fetal Alcohol Syndrome Resource Society.
- Davis, K., Desrocher, M., & Moore, T. (2011). Fetal alcohol spectrum disorder: A review of neurodevelopmental findings and interventions. *Journal of Developmental and Physical Disabilities*, *23*, 143-167.
- Douglas, H. (2010). The sentencing response to defendants with foetal alcohol spectrum disorder. *Criminal Law Journal*, *34*(4), 221-239.

- Famy, C., Streissguth, A. P., & Unis, A. S. (1998) Mental illness in adults with fetal alcohol syndrome or fetal alcohol effects. *American Journal of Psychiatry*, 155, 552-554.
- Fast, D., & Conry, J. (2004). The challenge of fetal alcohol syndrome in the criminal legal system. *Addiction Biology*, 9(2), 161-166.
- Fast, D. K., & Conry, J. (2009). Fetal alcohol spectrum disorders and the criminal justice system. *Developmental Disabilities Research Reviews*, 15(3), 250-257.
- Fast, D. K., Conry, J., & Looock, C. A. (1999). Identifying fetal alcohol syndrome among youth in the criminal justice system. *Journal of Developmental & Behavioral Pediatrics*, 20(5), 370-372.
- Gallagher, S. (2003). Self-narrative in schizophrenia. *The self in neuroscience and psychiatry*, 336-357.
- Goldstein, N. E., Condie, L. O., Kalbeitzner, R., Osman, D., & Geier, J. L. (2003). Juvenile offenders' Miranda Rights comprehension and self-report likelihood of offering false confessions. *Assessment*, 10, 359-369.
- Grant, T., Huggins, J., Connor, P., Pedersen, J. Y., Whitney, N., & Streissguth, A. (2004). A pilot community intervention for young women with fetal alcohol spectrum disorders. *Community Mental Health Journal*, 40(6), 499-511.
- Green, C. R., Mihic, A. M., Nikkel, S. M., Stade, B. C., Rasmussen, C., Munoz, D. P., & Reynolds, J. N. (2009). Executive function deficits in children with fetal alcohol spectrum disorders (FASD) measured using the Cambridge Neuropsychological Tests Automated Battery (CANTAB). *Journal of Child Psychology and Psychiatry*, 50(6), 688-697.
- Grisso, T. (2003). *Evaluating competencies: Forensic assessments and instruments* (2nd ed.). New York: Kluwer Academic/Plenum Press.
- Kalberg, W. O., & Buckley, D. (2007). FASD: What types of intervention and rehabilitation are useful?. *Neuroscience & Biobehavioral Reviews*, 31(2), 278-285.
- Kassin, S. M., Drizin, S. A., Grisso, T., Gudjonsson, G. H., Leo, R. A. & Redlich, A. D. (2010). Police-induced confessions: Risk factors and recommendations. *Law and Human Behavior*, 34, 3-38.
- Kodituwakku, P. W. (2007). Defining the behavioral phenotype in children with fetal alcohol spectrum disorders: A review. *Neuroscience and Biobehavioral Reviews*, 31, 192-201.
- Ladd v. State, 3 S.W.3d 547 (Tex. Crim. App. 1999).
- Little, R. E., & Wendt, J. K. (1991). The effects of maternal drinking in the reproductive period: an epidemiologic review. *Journal of substance abuse*, 3(2), 187-204.
- Looock, C., Conry, J., Cook, J. L., Chudley, A. E., & Rosales, T. (2005). Identifying fetal alcohol spectrum disorder in primary care. *Canadian Medical Association Journal*, 172(5), 628-630.
- Lutke, J. (2004). Fetal alcohol spectrum disorder (FASD) and corrections. New Beginnings Group.
- MacPherson, P. and A.E. Chudley. 2007. *Fetal Alcohol Spectrum Disorder (FASD): Screening and estimating incidence in an adult correctional population*. Presented at the 2nd International Conference on Fetal Alcohol Spectrum Disorder: Research, Policy, and Practice Around the World. Victoria, BC.

- MacRae, L. D., Bertrand, L. D., Paetsch, J. J., & Hornick, J. P. (2011). Relating risk and protective factors to youth reoffending: A two-year follow-up. *International Journal of Child, Youth and Family Studies*, 2(2.1), 172-196.
- Malbin, D. V. (2004). Fetal Alcohol Spectrum Disorder (FASD) and the role of family court judges in improving outcomes for children and families. *Juvenile and Family Court Journal*, 55(2), 53-63.
- Mattson, S. N., & Riley, E. P. (2000). Parent ratings of behavior in children with heavy prenatal alcohol exposure and IQ-matched controls. *Alcoholism: Clinical and Experimental Research*, 24, 226-231.
- May, P. A., Gossage, J. P., Kalberg, W. O., Robinson, L. K., Buckley, D., Manning, M., & Hoyme, H. E. (2009). Prevalence and epidemiologic characteristics of FASD from various research methods with an emphasis on recent in - school studies. *Developmental disabilities research reviews*, 15(3), 176-192.
- McDonald, S., Colombi, A., and Fraser, C. 2009. *Paths to Justice Research in Brief*. Research and Statistics Division, Department of Justice Canada. Ottawa, ON.
- McLachlan, K., Roesch, R., & Douglas, K. (2011). Adolescent rights comprehension: The Influence of age, intelligence, and interrogative suggestibility. *Law and Human Behavior*, 35, 165-177.
- McLachlan, K. (2012). *An examination of abilities, risks, and needs of adolescents and young adults with Fetal Alcohol Spectrum Disorder (FASD) in the criminal justice system*. Burnaby, BC: Simon Fraser University.
- McLachlan, K., Roesch, R., Viljoen, J. L., & Douglas, K. S. (2014). Evaluating the Psycholegal Abilities of Young Offenders With Fetal Alcohol Spectrum Disorder. *Law and Human Behavior*. 38(1), 10-22.
- Mitten, R. (2004). Fetal Alcohol Spectrum Disorders and the justice system. Commission on First Nations and Metis peoples and justice reform. Retrieved November 15, 2006 from <http://www.justicereformcomm.sk.ca/volume2/12section9.pdf>
- Moore, T. E., & Green, M. (2004). Fetal alcohol spectrum disorder (FASD): A need for closer examination by the criminal justice system. *Criminal Reports*, 19(1), 99-108.
- Moscovitch, M. (1989). Confabulation and the frontal systems: Strategic versus associative retrieval in neuropsychological theories of memory. *Varieties of memory and consciousness: Essays in honour of Endel Tulving*, 133-160.
- O'Connor, M. J., Shah, B., Whaley, S., Cronin, P., Gunderson, B., & Graham, J. (2002). Psychiatric illness in a clinical sample of children with prenatal alcohol exposure. *American Journal of Drug and Alcohol Abuse*, 28, 743-754.
- Padgett, L. S., Strickland, D., & Coles, C. D. (2006). Case study: using a virtual reality computer game to teach fire safety skills to children diagnosed with fetal alcohol syndrome. *Journal of pediatric psychology*, 31(1), 65-70.
- Peadon, E., Rhys-Jones, B., Bower, C., & Elliott, E. J. (2009). Systematic review of interventions for children with Fetal Alcohol Spectrum Disorders. *BMC pediatrics*, 9(1), 35.
- People v. MICHAEL ANDERSON 825 NW 2d 678 - Mich: Court of Appeals 2012
- Perske, R. (1994). Thoughts on the police interrogation of individuals with mental retardation. *Mental Retardation-Washington*, 32(5), 377-380.

- Popova, S., Lange, S., Bekmuradov, D., Mihic, A., & Rehm, J. (2011). Fetal alcohol spectrum disorder prevalence estimates in correctional systems: a systematic literature review. *Can J Public Health, 5*, 336-340.
- Raine, A. (2002). Annotation: The role of prefrontal deficits, low autonomic arousal, and early health factors in the development of antisocial and aggressive behavior in children. *Journal of Child Psychology and Psychiatry, 43*(4), 417-434.
- Rasmussen, C. (2005). Executive functioning and working memory in fetal alcohol spectrum disorder. *Alcoholism: Clinical and Experimental Research, 29*(8), 1359-1367
- Rasmussen, C., Andrew, G., A., Zwaigenbaum, L., & Tough, S. (2008). Neurobehavioural outcomes of children with fetal alcohol spectrum disorders: A Canadian perspective. *Pediatric Child Health, 13*, 185-191.
- Rasmussen, C., Talwar, V., Looms, C., & Andrew, G. (2008). Brief report: Lie telling in children with fetal alcohol spectrum disorder. *Journal of Pediatric Psychology, 33*, 220-226.
- Rasmussen, C., & Wyper, K. (2007). Decision making, executive functioning, and risky behaviors in adolescents with prenatal alcohol exposure. *International Journal on Disability and Human Development, 6*, 369-382.
- Redlich, A. D., Silverman, M., & Steiner, H. (2003). Pre-adjudicative and adjudicative competence in juveniles and young adults. *Behavioral Sciences and the Law, 21*, 393-410.
- Santtila, P., Alkiora, P., Ekholm, M., & Niemi, P. (1999). False confession to robbery: The roles of suggestibility, anxiety, memory disturbance and withdrawal symptoms. *The Journal of Forensic Psychiatry, 10*(2), 399-415.
- Schonfeld, A. M., Mattson, S. N., & Riley, E. P. (2005). Moral maturity and delinquency after prenatal alcohol exposure. *Journal of Studies on Alcohol and Drugs, 66*(4), 545.
- State v. Galloway, 202 Or App 613, 123 P3d 352, rev den, 340. Retrieved from <http://www.publications.ojd.state.or.us/docs/A121922.htm>
- Steinhausen, H. C., & Spohr, H. L. (1998). Long-term outcome of children with fetal alcohol syndrome: Psychopathology, behavior, and intelligence. *Alcoholism: Clinical and Experimental Research, 22*, 334-338.
- Streissguth, A. P., Barr, H. M., Kogan, J, Bookstein, F. L. (1996). *Final Report to the Centers for Disease Control and Prevention on Understanding the Occurrence of Secondary Disabilities in Clients with Fetal Alcohol Syndrome and Fetal Alcohol Effects*. Seattle: University of Washington.
- Streissguth, A. P., Bookstein, F. L., Barr, H. M., Sampson, P. D., O'Malley, K., & Young, J. K. (2004). Risk factors for adverse life outcomes in fetal alcohol syndrome and fetal alcohol effects. *Journal of Developmental & Behavioral Pediatrics, 25*(4), 228-238.
- Viljoen, J. L., & Roesch, R. (2005). Competence to waive interrogation rights and adjudicative competence in adolescent defendants: Cognitive development, attorney contact, and psychological symptoms. *Law and Human Behavior, 29*, 723-742.
- Wedding, D., Mengel, M. B., Ulione, M., Cook, K., Kohout, J., Ohlemiller, M., Rudeen, K., & Braddock, S. (2007). Psychologists' knowledge and attitudes about fetal alcohol syndrome, fetal alcohol spectrum disorders, and alcohol use during pregnancy. *Professional Psychology: Research and Practice, 38*, 208-213.

West, J. R., Goodlett, C. R., Bonthius, D. J., Hamre, K. M., & Marcussen, B. L. (1990). Cell Population Depletion Associated with Fetal Alcohol Brain Damage: Mechanisms of BAC Dependent Cell Loss. *Alcoholism: Clinical and Experimental Research*, 14(6), 813-18.

About the Authors:

Jerrod Brown, MA, MS, is the treatment director for Pathways Counseling Center, Inc. Pathways provides programs and services benefitting individuals impacted by mental illness and addictions. Mr. Brown is also the founder and CEO of the American Institute for the Advancement of Forensic Studies (AIAFS).

Jeffrey Long-McGie, MA & MBA is a Research Fellow at the AIAFS, and currently training to become a licensed police officer.

Judge Anthony (Tony) Wartnik, BA, JD, was a trial judge for 34 years in King County, Washington.

Pamela Oberoi, MA is currently the manager of the refugee mental health program at Pathways Counseling Center.

Janina Wresh has 19 years of experience in law enforcement working in forensics crime laboratories, courts, and adult detention centers. She has served as a deputy sheriff, police officer, domestic abuse response specialist, crisis intervention specialist, and crime scene technician. Janina also serves as AIAFS' Chief Operating Officer.

Erv Winkauf, MA is a retired 40-year law enforcement veteran with 19 years of teaching experience. He currently serves as chairperson of the Concordia University Criminal Justice Department in St. Paul.

Gennae Falconer, MA, is the Director of Community Engagement for the Greater Minneapolis Council of Churches.

Alyse Kerr, MS, NCC, NADD-CC, LPC - is the founder and CEO of Integrative Counseling Services, PC. She specializes in supporting individuals with intellectual disabilities and co-occurring mental health conditions. Integrative Counseling Services, PC provides outpatient therapy, behavior support, consultation, supervision, and training in the state of Pennsylvania.