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Fetal Alcohol Spectrum Disorder (FASD) and Confabulation: A Call to Action and a Need for Increased Awareness, Understanding, and Training among Criminal Justice, Forensic Mental Health, and Legal Professionals

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Abstract

Fetal alcohol spectrum disorder (FASD) is the umbrella term for a set of disorders resulting from prenatal alcohol exposure. Despite the prevalence in the general population, little research has been completed to understand the impact of these disorders on individuals, particularly when they are involved in nuanced and complex environments such as forensic settings, including the criminal justice system. Of particular concern is the veracity of information provided and the introduction of false memories and confabulation by those impacted by FASD. This article will introduce important information about FASD and confabulation, and how these two phenomena interact within criminal justice, forensic mental health, and legal contexts. Finally, a need for training for professionals in the criminal justice, forensic mental health, and legal professions is discussed to bring light to this important topic, provide improved service and outcomes for those with FASD, and encourage further study.

Keywords: Confabulation; Criminal Justice System; Fetal alcohol spectrum disorder; Forensic mental health

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Introduction

A critical contemporary jurisprudence issue is the reliability and veracity of testimony in forensic and legal settings. It is now well known that certain populations may be more vulnerable to false memory and confabulation (i.e., acceptance and belief of an incorrect memory that did not actually occur or has been taken out of temporal context) [1,2]. In this article, we highlight a population of individuals, already overrepresented in criminal justice populations [3-5], those with Fetal Alcohol Spectrum Disorder (FASD). Individuals with this neurodevelopmental disorder are particularly vulnerable to confabulation as a direct result of the underlying brain impairments resulting from prenatal alcohol exposure as well as a result of other adverse life experiences accompanying this lifelong disability [1]. This article will argue that special care should be extended to these individuals during interrogations and interviewing because without such considerations, the potential for miscarriages of justice increases. Careful consideration of interview and interrogation techniques is required by law enforcement and other legal professionals as certain broadly employed approaches may play to the particular neurodevelopmental vulnerabilities of individuals with FASD, thus increasing the likelihood of obtaining inaccurate information and false testimony. By increasing awareness of FASD and taking the vulnerabilities inherent in this condition into consideration in various criminal justices, forensic mental health, and legal settings, more reliable and valid information and testimony may be obtained. However, more research into this area is needed due to the paucity of empirical studies documenting the tendency

of individuals with FASD to create false memories and produce confabulations.

FASD and Confabulation in Legal Contexts

FASD is a life-long condition characterized by permanent brain abnormalities, arising as a result of prenatal alcohol exposure (PAE) [6-8]. The scope and severity of FASD symptoms varies from individual to individual resulting from complex interactions between a variety of internal and external factors. These can include factors such as the timing and dosage of alcohol exposure, genetics and epigenetics, antenatal and maternal health and other factors such as later trauma [9-14]. In the United States, FASD is an umbrella term used to encompass multiple neurodevelopmental disorders resulting from PAE including Fetal Alcohol Syndrome (FAS) and Alcohol Related Neurodevelopmental Disorder (ARND). Other countries around the world use the term as a diagnostic label in its own right (e.g., Australia, Canada, Scotland, etc.) with persons typically diagnosed with FASD with or without sentinel facial features [15-17]. Regardless, FASD is becoming increasingly recognized internationally as a condition characterized by severe neurodevelopmental impairment across multiple domains. It is expected to be included in the next version of the DSM as it is currently included as a condition for further study in the DSM-5 [18]. In 2013, the American Psychiatric Association (APA) introduced a diagnosis for those who use the Diagnostic and Statistical Manual – Fifth Edition (DSM-5), Neurodevelopmental Disorder Associated with Prenatal Alcohol Exposure [18]. More specific criteria to understand the diagnosis related to PAE impairments is further detailed in the DSM-5's section for Conditions for Further Study. In this section, the DSM-5 introduces a disorder labeled "Neurobehavioral Disorder Associated with Prenatal Alcohol Exposure" with more specific proposed criteria to assist in identifying potential features of ND-PAE.

The impairments resulting from PAE occur across a broad range of domains. Impairments may be physical (e.g., heart or hearing issues), cognitive (e.g., poor academic abilities, impairments in attention, memory, slowed information processing, impulsivity and difficulties in linking cause and effect), social (e.g., difficulties with communication, making and maintaining friendships, and understanding social conventions and rules), and adaptive (e.g., problems with the tasks of everyday living such as self-care, organizing one's life, the ability to organize a budget and pay bills) [19-25]. While individuals with FASD will not have impairment in all areas, they often have severe deficits across multiple domains. It is the severe deficits in the various neurodevelopmental domains that underlie the difficulties encountered by people with FASD in the criminal justice system. Within these domains, individuals may have impairments in cognition, academic achievement, language, memory, attention, affect, executive functioning, and adaptive functioning [15]. Deficits in these areas interact with each other and manifest as individuals who display a complex array of difficulties in multiple areas of functioning.

Deficits with cognition are reflected in lower overall intelligence and/or difficulties with understanding and comprehending information, problem-solving and slowed processing speeds [26,27]. Language deficits can include difficulties with understanding language as well expressing yourself using language [28,29]. Difficulties in the academic realm are manifested in poor performance in areas such as basic reading, writing and mathematics [30,31]. Memory deficits can occur for visual or auditory information and can be longer term and/or in working memory. Individuals often have symptoms characteristic of attention deficit/hyperactivity disorder (ADHD) which can impact on both the attention and executive functioning domains. Similarly, impairments in executive functioning often result in a person having a poor ability to plan and organize their behavior as well as having significant difficulties in understanding cause and effect [32-36]. Many individuals with FASD have significant issues in affect, including high rates of anxiety and depressive disorders, concurrent difficultly with emotional regulation [37-39]. Adaptive functioning deficits are evident when individuals show impairments in their social functioning, often lacking the social skills needed to understand and successfully interact with others despite a strong desire to do so [40-43]. Difficulties in adaptive functioning are also seen in the challenges individuals have in performing the everyday living skills of life (e.g., managing their self-care, organizing a budget, and attending appointments) [15,44]. The links between these impairments related to the involvement in and difficulties negotiating the criminal justice system are largely self-evident although not immediately obvious to others.

Despite high levels of impairment, typically, FASD and impairments arising from PAE present without any obvious physical markers or characteristics. For example, sentinel facial features (i.e., a smooth philtrum, thin upper lip and the shortened distance across the opening of the eye) associated with FASD are only present in less 20% of those with heavy prenatal alcohol exposure and those features can become less distinct with age [45]. Without any obvious physical characteristics, FASD is a condition that is very difficult to accurately detect and diagnose [16,46]. In fact, most individuals with FASD go undiagnosed or are misdiagnosed with other conditions, meaning that most do not receive appropriate treatment or support for their condition [47-50]. As a result, individuals with FASD are often misunderstood and may be treated poorly by community members and health care professionals alike when their behavioral symptoms are mistaken for willful, defiant and antisocial behaviors [51,52]. Complicating matters further, FASD is typically comorbid with many other psychological and psychiatric conditions such as ADHD, anxiety, and substance abuse disorders, among others [8,35,37,49]. As a result, accurate recognition of the condition can be extremely difficult for even very experienced social work, clinical, medico-legal and criminal justice professionals.

Confabulation and FASD

One of the potential consequences of this disorder with its combination of cognitive, social, and adaptive functioning symptoms is that individuals with FASD are likely at elevated risk of confabulation [2,51,53-56]. Confabulation occurs when an individual inadvertently believes and reports inaccurate or false information regarding their memory of an event or events. It is unintentional, arising from the introduction of real or imagined

events/information that the individual comes to believe is both accurate and true [2,57]. Confabulation is not synonymous with lying but is often construed this way by others. Confabulation differs from lying as the individual is not consciously or deliberately attempting to deceive or conceal information, rather they are providing accounts which they have come to believe are true. Confabulation can refer to modest distortions of reality to larger, elaborate creations of multiple, complicated memories. Confabulations can be about matters that range from the mundane to the vitally important [33,58,59].

Historically, confabulation has been referred to as a consequence associated with brain damage [59]; however, recently this term has been extended to include healthy individuals who have accepted false information or memory and reported on it [60]. Confabulation can occur spontaneously or it can be provoked by particular contexts and people (e.g., police interrogation) [61]. However, in many instances, confabulation may simply be the result of an individual attempting to tell a coherent narrative while compensating for deficits in their actual memory for events [2,23,36,62]. Although the etiological underpinnings of this phenomenon are unclear, cognitive and memory impairments, deficits in processing speed, social functioning issues including a tendency to acquiesce to social pressure, and the inability to link actions with consequences, likely contributes to a vulnerability to suggestion, all of which may contribute to the manifestation of confabulation in people with FASD [2,19,51,53,54,63].

Pathological confabulation as a clinical sign has been most strongly associated with ventromedial prefrontal cortex (vmPFC) damage [63] and neuroimaging studies have shown that individuals with FASD have reduced cortical volume in the vmPFC [64]. The prefrontal cortex plays a critical role in executive function and is theorized to edit inaccurate memories during memory retrieval to produce a veridical memory trace [63]. Individuals with FASD often have executive dysfunction and inaccurate memory retrieval [26,32]. Finally, individuals with low IQ scores tend to be more vulnerable to the acceptance of false memories, and individuals with FASD tend to have lower IQ scores even if they are not found to be significantly impaired [65,66]. Thus, there is an abundance of circumstantial evidence linking FASD to confabulation; however, robust empirical studies have yet to directly confirm that individuals with FASD produce more confabulations than individuals without the condition.

FASD, Confabulation and the Criminal Justice System

It is not surprising that the presence of confabulation can have a profound impact on all professional and/or medico-legal settings, particularly those that rely heavily on self-report information [67]. As such, it is essential that professionals working in these settings be aware of confabulation and the factors which may increase its likelihood so that they can work in ways that minimize the risk of this occurring. Factors that have been found to increase confabulation include aspects internal and external to the individual. External factors, controllable by the interviewer can include the use of repeated questioning, aggressive interview techniques, and the introduction of inaccurate information when interviewing individuals [68,69]. Such interview techniques increase stress and anxiety in the interviewee and while these techniques are frequently used in legal settings to elicit information, they are associated with increased confabulation. To reduce the risk of confabulation, reducing stress and anxiety in the interview setting is recommended and may include the use of interview techniques that allow individuals to say when they don't know or are unsure of answers as well as the use of open-ended questions. Furthermore, when working in these settings with individuals with FASD, obtaining corroborating information from alternative sources whenever this is possible is vital.

The potential co-occurrence of FASD and confabulation can profoundly impact an individual's capacity to navigate the criminal justice system. Specifically, FASD can interfere with an individual's ability to understand all aspects of the legal process, to participate in decision making, to understand the consequences of their choices and actions on themselves and others, and to be reliably able to recall and provide information [57]. This, therefore, impacts significantly on a person's ability to make informed choices such as waiving their legal rights (e.g., Miranda rights and the right to an attorney), undergo police interrogation, provide confessions, enter pleas, stand trial, and serve as a witness [62,70-72]. During criminal investigations, a potential vulnerability to confabulation, such as those found in individuals with FASD, could contribute to false confessions and false allegations, particularly during interrogations when law enforcement officers employ leading questions and use strong coercive tactics [51,73]. In court settings, FASD symptoms can make it difficult for defendants to comprehend the complicated legal proceedings and confabulation can make it difficult for their defense counsel in developing a strong defense [57]. Witnesses with FASD who confabulate will be equally capable of providing inaccurate testimony and false accusations, both of which can contribute to wrongful convictions. Participating in these medico-legal activities without support and appropriate accommodations can result in miscarriages of justice and have disastrous consequences for the individual and others [71]. Case law indicates that FASD and confabulation result in complicated legal proceedings for adolescents and adults involved in the criminal justice system, with several appeals raising questions of false confessions, inaccurate testimony, and wrongful convictions [19]. The highly publicized case of Teina Pora [73], a New Zealand teenager with FASD who was falsely imprisoned for 20 years before his conviction was overturned, is a good example of the intersection of devastating effects of undiagnosed FASD, confabulation, and the criminal justice system [74]. This case highlights the enormous financial, emotional and societal costs of not recognizing the severe impairments experienced by individuals with FASD in the legal process.

A Need for Training

Cases such as Mr. Pora's, and others involving the consequences of FASD deficits, emphasize the importance of criminal justice, forensic mental health, and legal professionals receiving targeted training in the areas of FASD and confabulation.

Unfortunately, few empirical studies have specifically investigated the impact of FASD and confabulation on participation in the legal system despite an urgent need to do so. Through the comprehensive integration of current empirical research and case law reviews, training for those working in the criminal justice system can provide valuable information on this topic. This information should be presented in four key areas. In the first component, training should introduce participants to the underlying brain-based impairments associated with FASD to assist in identifying those individuals they are working with who may have this condition. Careful attention should be paid to recognizing those individuals who may have this condition but who are undiagnosed and require further assessment to understand their deficits. Second, training should allow attendees to explore and define confabulation and the conditions and circumstances that can increase and decrease the risk of this occurring. Third, training should detail how FASD and confabulation can negatively impact an individual's capacity to navigate the criminal justice system and highlight the consequences if this condition is not accurately identified and accommodated. Finally, training should conclude with the identification of existing gaps in knowledge for professionals and discussion of potential directions for future research, particularly in the trainee's area of expertise. Exposure to these key areas of content can predictably increase recognition and improve outcomes for individuals with FASD involved in the criminal justice system or other forensic settings. Ultimately, such training will also reduce miscarriages of justice and reduce the enormous financial and emotional costs associated with undiagnosed or misdiagnosed individuals with FASD.

Conclusion and Recommendations

The effects of prenatal alcohol exposure pose significant challenges in a wide range of environments. Despite increasing awareness of FASD in many areas (e.g. child protective services systems), many professionals involved in the criminal justice or other forensic settings have little experience and knowledge of the symptoms. One consequence of FASD in the legal context is the introduction of confabulation to legal proceedings. Publicized case findings, such as Mr. Pora's, demonstrate the importance of recognizing that individuals with FASD may engage in confabulation that can result in devastating legal consequences either for themselves or for others. Without formal training and knowledge, those who work in criminal justice or similar legal contexts may not be aware of the symptoms they may observe or the significant consequences that may occur. Through formal training and increased knowledge of FASD, mental health and legal professionals can increase their recognition of FASD and provide appropriate referral for assessment and accommodations for those affected. Such knowledge and interventions will ultimately result in an improved system with a fairer process for those with FASD. As noted above, it is strongly recommended that individuals working in the criminal justice field or other forensic settings become knowledgeable about FASD, confabulation, and possible interventions or accommodations that may reduce the potential for confabulation to occur in those with FASD. Finally, it is recommended that research specific to individuals with FASD and confabulation be completed to better understand the interaction of these two phenomena, particularly within a criminal justice or other forensic setting.

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