Fetal alcohol spectrum disorder (FASD) is a lifelong disorder which is the result of prenatal exposure to alcohol (PAE) (Charness et al., 2016; Rangmar et al., 2015). Alcohol crosses the placenta which may result in cell damage and have an impact on developing organs (including the brain and the spinal cord). There are numerous organs which are sensitive to alcohol exposure across all stages of pregnancy (Jonsson, 2019). FASD, previously considered an umbrella term for a range of accepted diagnoses including: fetal alcohol syndrome (FAS), partial FAS, alcohol-related neurodevelopmental disorder (ND) and alcohol-related birth defects. Increasingly these terms are being replaced by the FASD with and without dysmorphic features in the UK (SIGN, 2018).

Individuals with FASD exhibit a variety of symptoms including cognitive (e.g. intelligence, executive control, and memory), social (e.g. communication skills and suggestibility) and adaptive (e.g. decision making ability and capacity to solve problems) impairments (Brown et al., 2011; BoS, BMA, 2016). One of the misconceptions regarding FASD is that individual will exhibit facial features that would suggest PAE. However, this is rarely the case. The majority of individuals who experience the negative effects of PAE lack any physical symptoms. It has been estimated that less than 10 per cent of individuals with FASD exhibit the physical features which have been found to be associated with PAE (Astley, 2010). Moreover, individuals who do exhibit the physical symptoms of PAE, typically diagnosed as FAS (i.e. short palpebral fissures, thin vermilion border, smooth philtrum and growth deficits), tend to become less marked or pronounced as the individual gets older (Streissguth et al., 1991). Individuals with FASD often present with a range of other physical and mental health problems. A review identified 428 comorbid conditions linked to FASD. They suggest rather than being referred for FASD, these comorbid conditions are how individuals may present to services (Popova et al., 2016).

Currently, there are no guidelines which are developed to inform and support mental health professionals in the detection and identification of PAE in mental health professionals amongst their patient population (Mela et al., 2019). In order to make the diagnostic process more accessible to mental health professionals (as well as address some of the key diagnostic complexities surrounding FASD), “the Diagnostic and Statistical Manual – Fifth Edition” (DSM-5; American Psychiatric Association, 2013) included ND associated with prenatal alcohol exposure (ND-PAE) as an example under the diagnosis “Other Specified Neurodevelopmental Disorder”. Therefore, DSM-5 allows for a clinical diagnosis of “Other Specified Neurodevelopmental Disorder – Neurodevelopmental Disorder Associated with Prenatal Alcohol Disorder”. The diagnostic criteria are included in a section of the DSM-5 which is designated as “Conditions for Further Study” (Brown et al., 2017). Based on a review of the FASD literature, Roozen et al. (2016) found the overall prevalence rate of FASD to be 3.35 per cent in the USA. McQuire et al. (2019) recently carried out a study which screened for the prevalence of FASD in a region of the UK using data from a population-based birth-cohort study. The screening prevalence estimates identified in this study indicates that FASD is “likely to be a significant public health concern in the UK. Given current patterns of alcohol consumption and recent changes in prenatal guidance, active case ascertainment studies are urgently needed to further clarify the current epidemiology of FASD in the general population of the UK” (McQuire et al., 2019, p. 344).

The prevalence in the legal context seems to be higher in both juvenile and adult offender samples (e.g. Fast et al., 1999; MacPherson et al., 2011; Brintnell et al., 2019). It is important to
emphasise that most individuals with FASD never become involved with the criminal justice system. Another important finding which has emerged from active case ascertainment studies is that a significant proportion of individuals identified as having an FASD only became aware of this when they are in the criminal justice system. This is despite the fact that they had previously been diagnosed with other psychiatric mental health conditions (e.g., Popova et al., 2011; Bower et al., 2018; Brintnell et al., 2019). In a systematic review on prevalence, Popova et al. (2011) estimated that youths with FASD are 19 times more likely to be incarcerated when compared to youths with no diagnosis of FASD. Impaired executive functioning (such as a poor understanding of the consequences of inappropriate behaviours) and poor impulse control are some of the primary reasons that may lead some individuals with FASD to become involved with the criminal justice system (Verbrugge, 2003; Novick Brown et al., 2012 – see also Allely and Gebbia, 2016).

Risk of false confession, false testimony and wrongful conviction in individuals with FASDs

Symptoms of FASD may have a negative impact on an individual’s ability to participate in the criminal justice system and receive a fair hearing (i.e. waive rights, enter pleas, stand trial and abide by community supervision) (Conry et al., 1997; Conry and Lane, 2009; Freckelton, 2016b; McLachlan et al., 2014). As recently highlighted by Brown et al. (2019), there is a lack of formal training specific to FASD for mental health professionals which is perpetuating the under-identification of FASD (Chudley et al., 2005). As a result, individuals with FASD are frequently overlooked with regards to mental health evaluations – particularly within the criminal justice system (Conry and Fast, 2011; Popova et al., 2011; Brown et al., 2019).

FASD have been found to cause impaired linguistic and communication abilities. Difficulties with both understanding and forming coherent communication patterns are found in individuals with FASD (McLachlan et al., 2014). Such impairments may cause the individual to be coerced more easily into “improper interrogation procedures” which can subsequently lead to improperly obtained confessions, on the part of the police or other criminal justice professionals. This is a result of the greater suggestibility of individuals with FASD (McLachlan, 2012). This population may also be more prone to acquiescence and may also change their responses even with just minimal pressure (e.g. Brown et al., 2010, 2011). There is also the tendency for this group to exhibit average but superficial verbal skills that mask their below-average comprehension ability (Fast and Conry, 2009). Individuals with FASD also tend to, following their arrest, waive their rights after initially denying culpability and subsequently “over” confession. Specifically, they provide much more information during the interrogation compared to neurotypicals (Brown et al., 2010).

Adaptive functioning (a type of experiential learning) has also been found to be impaired in individuals with FASD. Adaptive functioning describes the ability to learn to adapt behaviour based on previous experiences. Self-regulation difficulties and impulse control in an unstructured environment (e.g. their wider social environment) can be other consequences of impaired adaptive functioning. It has been well-established that individuals with FASD are more likely to re-offend and be arrested numerous times as a result of their impaired ability to make associations between actions and their consequences (e.g. Edwards and Greenspan, 2010). The issue of confabulation is also something that needs to be considered in individuals with FASD who become involved in the criminal justice system. Confabulation involves the act of honestly lying or giving information which is based on memories which are not accurate (Brown et al., 2014). Confabulation in individuals with FASD frequently leads to incorrect testimonies and wrongful conviction and incarceration. Specifically, when an individual with FASD is not able to recall information, they may confabulate or integrate misinformation into their responses to the interviewer. Such inaccurate reporting of past events is typically unintentional (an unconscious act) and is part of the process of filling in the gaps in memory in the individual with FASD (Brown et al., 2016). FASD may also frequently result in the individual being impaired in their ability to provide a coherent, sequential narrative. In addition to confabulation described above, they may also exhibit memory impairments such as forgetting crucial defence-related information from interview to interview and not being able to recall a number of offence-related details (Brown et al., 2010).
An example of one of the most disturbing modern miscarriages of justice was identified by the Privy Council in *Pora v. The Queen* (2015) UKPC 9 in New Zealand. This miscarriage of justice occurred as a result of the criminal justice system’s failure to identify the diminished executive function and the propensity to confabulate due to PAE in a young Maori male who was interviewed by police about a rape and murder in 1992. As a result, he was found guilty by juries based on unreliable confessions two times. His conviction was only recently quashed in 2015 following expert evidence regarding the impact of Pora’s FASD on his confession and how his FASD impacted on his responses during police questioning. The decision of the Privy Council in *Pora v. The Queen* (2015) UKPC 9 provides an authoritative legal precedent for recognition that questioning by police can lead to unreliable and confabulated confessions from individuals with FASD. Pora spent over 20 years in prison. The case outlined by Freckelton highlights a number of critical issues including: the potential for PAE to result in FASD, the particular vulnerabilities that an individual with FASD can have and if the FASD is not properly identified, miscarriages of criminal justice can occur (see Freckelton, 2016a).

### A proposed model standard for forensic assessment of FASDs

Brown *et al.* (2010) have recommend the use of an informal screening questionnaire which includes empirically validated factors which have are associated with FASD (Brown *et al.*, 2010). This screening questionnaire covers five areas:

1. **offence conduct** (e.g. impulsive and illogical actions with high risk of detection, poor exit strategy, aggressive over-reaction to unforeseen events (fight or flight), more sophisticated/experienced co-defendants);

2. **arrest conduct** (e.g. immediately or easily waives rights, over-confesses (suggestible), emotionally detached from crime (shows little remorse or guilt), behavioural regression (breaks down in tears, infantile behaviour));

3. **interview with client** (e.g. eager to please or stubbornly resists the obvious, socially inept, immature and naïve and does not seem to remember what you tell him/her from appointment to appointment);

4. **prior legal history** (e.g. easily led by more sophisticated peers and illogical offences (e.g. stealing something that has little value)); and

5. **life history** (e.g. involvement with child welfare, adoption/foster or relative placement/juvenile commitment, anger control problem, poor understanding of personal boundaries) (for full FASD experts screening questionnaire see Brown *et al.*, 2010, p. 417).

Even more recently, Brown *et al.* (2016) outlined a number of tips or recommendations for criminal justice interviewers. Some of these tips include how interviewers should only ask one question at a time and also use language which is simple, concrete and specific. Interviewers should avoid asking multiple questions in the same sentence (i.e. shotgun questions). Another tip is that interviewers must be aware of the possibility of suggestibility and confabulation in individuals with FASD. They highlight that both suggestion and confabulation are particularly likely when the interviewer asks leading questions or puts them under pressure. Brown and colleagues also recommend that interviewers avoid adopting judgemental or accusatory tones or phrases. In individuals with FASD, such tones or phrases can increase feelings of anxiety and reduce information processing. They should also avoid the use of overly complimentary language as this may lead to inaccuracy as individuals with FASD generally have a desire to please those in authority they come into contact with. The interviewer also needs to be alert to any overly eager responses that echo (parrot) the suggestions made by the interviewer or elaborate on the suggestions which are made by the interviewer. The interviewer should ask for concrete evidence (i.e. receipt for something that they said they had bought) and obtain, if possible, corroborating information from collateral sources. At last, they recommend that interviewers ask “What” questions rather than “how” or “why” questions. They argue that this is because “What happened next?” type questions are more concrete and are usually easier to process when compared to asking how or why questions as such questions require higher-order, abstract processing (see Brown *et al.*, 2016 for many more tips for criminal justice interviewers).
FASD and competency to stand trial (CST)

There has been relatively little empirical investigation into the impact of defendants FASD on their CST. However, from the sparse literature to date, FASD symptoms are likely to have a negative effect on a defendant’s CST (e.g. Brown et al., 2017; Freckelton, 2016b; McLachlan et al., 2014). The assessment of CST is complicated given the broad range of how neurocognitive and adaptive functioning impaired which are associated with PAE can present. Assessment of CST, despite the challenges, is nevertheless imperative to the protection of due process rights (Brown et al., 2016, 2017; McLachlan et al., 2014 – see Brown et al., 2019). Individuals with FASD can very easily appear to meet minimal criteria for CST when in fact they have nuanced or subtle impairments that may lead to significant problems for proceeding in the criminal justice system. Thus, highlighting the need for specialised knowledge regarding FASD (Brown et al., 2019). If an evaluator suspects that PAE may have been a contributory factor in reduced functional capacities relating to CST, a referral for a full neuropsychological and language assessment should be considered although a full neuropsychological assessment may not be necessary in all CST cases of suspected FASD (i.e. if there are clear indications that the individual is not competent to proceed). There will be some cases where the individual requires a much more in-depth assessment to accurately determine their functional abilities and impairments. Some impairments may appear to be subtle, however, the impact on individuals with FASD may be severe and an in-depth assessment of their functional capacities outside of their intellectual functioning may be required (Brown et al., 2019).

CST of a defendant is a judicial decision which is usually informed by independent psychiatric or psychological evaluations of the defendant’s functional capacities. The independent psychiatrist or psychologist provides information which is relevant to the court regarding cognitive, adaptive and psychiatric factors that might affect the competency of the defendant. There are a wide range of well-validated instruments for assessing CST in defendants who are neurotypical (Pirelli et al., 2011). However, currently there does not exist any structured protocol for guiding the assessment CST in defendants who have or may have FASD (Brown et al., 2017). Brown et al. (2017) also make reference in their paper to the DSM-5’s cautionary statement (Section I. Cautionary Statement for Forensic Use of DSM-5) which states that while a diagnosis can support legal decision makers in determining things such as level of culpability, there is a discrepancy between the clinical diagnostic information and questions of legal concern. Usually, the clinical diagnosis of a DSM-5 mental disorder such as intellectual disability (intellectual developmental disorder) does not suggest that an individual with such a condition would meet the legal criteria for the presence of a mental disorder or a specified legal standard (e.g. competence and criminal responsibility). Usually additional information is needed beyond that outlined in the DSM-5 diagnostic criteria for legal criteria such as the individual’s functional impairments and how these impairments affect the abilities in question. “It is precisely because impairments, abilities, and disabilities vary widely within each diagnostic category that assignment of a particular diagnosis does not imply a specific level of impairment or disability” (DSM-5, 2013, p. 25). There is substantial evidence in the psychological and legal literature which shows how cognitive impairments can impair competency (e.g. Mossman, 2007; Simpler and Parmenter, 2011; White et al., 2012). Therefore, it is suggested that it is the severity and nature/scope of impairments secondary to PAE that may provide a valid basis for a judicial finding of a defendant lack of CST as opposed to the diagnosis per se (Brown et al., 2017).

In their recent paper, Brown et al. (2017) make a number of recommendations for the minimum expected steps that they suggest should be phased into all CST evaluation procedures, particularly in cases which are high-stake. These steps include the following: early inquiry with counsel regarding whether there are indications of PAE in the defendant; complete record review, which include birth, medical and school records in addition to any other childhood records which are available (e.g. child protective services, adoption records and juvenile records); comprehensive neuropsychological testing (e.g. intellectual, attention, memory and learning, communication and executive functioning skills). This would also include adaptive assessment with individuals who have observed, on a regular basis, the defendant’s everyday behaviour and also assessment for suggestibility; use of CST measures which are standardised (well-validated) in order to assess specific psycho-legal capacities and interpreting results of these measures in the context of the
defendant’s specific cognitive/adaptive profile; using open-ended evaluation questions and making sure that the defendant understands the questions with in-depth probing; and corroborating self-report with documented third-party data and/or collateral interviews. At last, they recommend that if the evaluator suspects FASD and they lack the expertise to diagnose ND-PAE according to the diagnostic guidelines in the DSM-5, a referral for specialised assessment should be sought as soon as possible for the defendant (Brown et al., 2017, pp. 24-5).

Urgent need for more research and for the training of mental health and criminal justice professionals on FASD

There is a very real need for research that empirically investigates the impact that FASD has on psycho-legal capacities (Brown et al., 2017). There is also a need for research which focuses on the development of a well-validated instrument which can be used to assess CST in defendants who have or may have FASD (Brown et al., 2017). Additionally, there is always an urgent need for FASD training (particularly in relation to CST) for forensic mental health evaluators and other criminal justice professionals. Such training is particularly crucial given the misconceptions that exist relating to FASD and the sometimes subtle and nuanced challenges that some individuals with FASD can experience. FASD training would hopefully support forensic evaluators to identify and understand the impairments which are specific to FASD and recognise the possible impact of the defendant’s FASD on their CST. Such “early” possible identification can then result in proper diagnosis by a clinician (as well as the specific impairments in the defendant) and highlight their need for appropriate and timely interventions which are specifically designed for individuals with FASD (Brown et al., 2019). The “criminal justice system is an ideal arena for intervention efforts aimed at the rehabilitation and prevention or reduction of recidivism in this unique population” (Popova et al., 2011). The case of Pora, discussed by Freckelton in detail in his paper, clearly highlights the need for criminal justice professionals (e.g. police, forensic mental health assessors, defence lawyers, prosecution lawyers and judicial officers) to be aware of and alert to the potential impact that FASD may have on the defendants responses to questions asked of them during interrogation (Freckelton, 2016a). There is a very real risk that decision makers and legal professionals will overestimate a defendant’s abilities and underestimate their needs if they lack sufficient knowledge and understanding of the defendant’s diagnosis of FASD. This could lead to sentencing decisions which are harsher as well as a lack of access to appropriate treatment and support (Mullally, 2019).

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