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THE IMPACT AND IMPLICATIONS OF TRAUMA AND ABUSE

“There are a lot of men like me on death row- good men- who fell to the same misguided emotions, but may not have recovered as I have. Give them a chance to do what’s right. Give them a chance to undo their wrongs. A lot of them want to fix the mess they started but don’t know how”¹

INTRODUCTION

Trauma encompasses a multitude of issues including, but not limited to, physical, sexual, emotional, and environmental abuse. The impact of trauma upon later violent behavior have however, only recently begun to be addressed. Trauma and abuse are widely accepted to be life altering experiences, however connecting such experiences to later violent behavior can be problematic. The experiences, which at one point would have invoked sympathy, are pushed aside as unconnected to the behavior exhibited. There remains a denial of both the element of causation and the construct of violent crime in relation to earlier traumatic or abusive experiences.

Such problems are exemplified by California Governor Pete Wilson’s response to a request to grant clemency to Robert Harris²: “As great as my compassion for Robert Harris the child, I cannot excuse nor forgive the choice made by Robert Harris the man.”³ Implicit is a lack of understanding within the criminal justice system as to the causal link between abuse and later violence and the role of trauma as mitigating evidence within the sentencing stage. The incidence of trauma within the accused’s life is not, contrary to the implicit belief of Governor Wilson, intended to justify or excuse the crime committed. Such evidence is instead introduced for a far different reason, to provide clarification of how the crime came to be committed. It is imperative that the causal link between such trauma and violence is expounded upon in the context of the defendant’s social history; the narrative explaining how the victim of abuse or violence became the perpetrator. The defendant is not evil nor should he be vilified or for that matter, understood, but consideration of who he is and how he became the person standing before a jury is critical. It is imperative to convey that Robert Harris, the child, is an integral part of Robert Harris the man.

The following paragraphs discuss, amongst other things, the prevalence of early trauma and abuse within those convicted of violent crime and specifically capital murder; the context in which such abuse should be

¹ Toronto Patterson, executed May 28, 2002: excerpt from his last statement. Beazley was 17 at the time of the crime.

² Harris’s history is replete with abuse and trauma. His birth, 3 months premature, induced by a brutal kick to his mother’s abdomen by his father was an indicator of the abuse and trauma Harris was to suffer throughout his childhood and adolescence. At the age of two, he had his jaw broken by his father: beatings by both parents were common. At meal times, he learnt not to reach for anything without his father’s permission otherwise he would have a fork stabbed into his hand. Harris lived in a perpetual state of fear. “For sport his father would load his gun and tell the children they had 30 minutes to hide outside the house, after which he would hunt them like animals, threatening to shoot anyone he found.” It is indicative of the familial environment that Harris’s father was later jailed for sexually molesting his daughters and his mother smoked and drank herself to death. Harris later shot two teenagers for death, was sentenced to death and executed in 1993.

<http://www.birthpsychology.com/violence/verny.html> Thomas R. Verny, M.D., D.Psych., F.R.C.P.(C)

³ Haney, C., The Social Context of Capital Murder : Social Histories and the Logic of Mitigation 35 *Santa Clara L. Rev.* 547 quoting Decision, In the Matter of the Clemency Request of Robert Alton Harris, at 3 (Apr. 16, 1992)

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both presented and understood, and finally, the emotional, psychological, physiological and neurological impact of such experiences upon a developing individual.

THE PREVALENCE OF ABUSE AND TRAUMA WITHIN CAPITAL DEFENDANTS

Numerous studies show a correlation between childhood abuse and adult violence.⁴ Clearly not every individual that suffers abuse will at a later stage become violent; however, the prevalence of abuse is high within the general criminal/delinquent population and particularly pronounced within those sentenced to death.⁵ This can be seen both within the histories of capital defendants as presented at trial or on appeal, and within a number of studies that have documented the frequency of traumatic and abusive experiences in the social histories of violent offenders. Lewis et al. in their seminal study of juveniles sentenced to death found that each individual had suffered severe physical and sexual abuse. In the majority of cases this abuse was of a repetitive nature and often perpetrated by more than one family member. Blake found that 83.8% of convicted killers suffered severe physical and emotional abuse and 32.2% were sexually violated as children.⁶

The vast majority of defendants facing the death penalty have therefore, been victims of physical, sexual and psychological abuse and in many cases a combination of these.

The case of Alexander Williams exemplifies the extreme nature of abuse suffered: In 1990 Williams' sister wrote in an affidavit that: "My mother made him strip naked, and she whipped him with extension cords or fan belts over and over again.... Once she got mad at Alex and she called him downstairs. She had a hammer in one hand and a screwdriver in the other. She made [Alex] stand still and she pounded the screwdriver into his toes with the hammer." Their mother also frequently made Alex strip naked and locked him outside the house at night as punishment.⁷ Violence of this nature is unfortunately not unusual. It is invariably perpetrated by family members and are rarely isolated events. Instead, the abuse continues from infancy to adolescence.⁸

Domestic violence is also routinely encountered within the histories of violent offenders. They may have witnessed their mother or sibling's being violently abused; the effects of witnessing violence and abuse should not be underestimated. Indeed copious evidence indicates that such experiences may be as psychologically damaging as a direct experience. In relation to juvenile offenders, Ewing concludes that "probably the single most consistent finding in the research on juvenile homicide to date is that children and adolescents who kill, especially those who kill family members, have generally witnessed and/or been

⁴ Widom, C.S., Maxfield. M.G., *An update on the "cycle of violence"* National Institute of Justice: Research in Brief, February 2001; Widom, C.S *The Cycle of Violence*, Research in Brief, Washington D.C. U.S Department of Justice, National Institute of Justice , October 1992, NCJ 136607; Smith, Thornberry, "The Relationship Between Childhood Maltreatment and Adolescent Involvement in Delinquency," *Criminology* 31 (1993): 173-202

⁵ Haney, C., *The Social Context of Capital Murder: Social Histories and the Logic of Mitigation* 35 *Santa Clara L. Rev.* 547 pp13; Federal Bureau of Investigation, National Center for the Analysis of Violent Crime, *Criminal Investigative Analysis: Sexual Homicide*, 1990

⁶ Blake et al. 1995, cited in *Adolescent Brain Development*, International Justice Project, 2002.

www.internationaljusticeproject.org

⁷ Alexander Williams Case overview, www.internationaljusticeproject.org

⁸ Other unfortunate examples include Freddie Lee Hall who despite the ruling in *Atkins v Virginia* forbidding the execution of those with mental retardation remains on Florida's death Row. Hall has an IQ of 60. He was one of 17 children and was frequently 'tortured... stuffed into a sack' and swung over a fire and buried in the ground, supposedly in an attempt to cure his asthma. In *Beyond Reason: The death penalty and Offenders with Mental Retardation*, Human Rights Watch Vol.13, No.1 (G)- March 2001

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directly victimized by domestic violence.”⁹ The correlation between domestic abuse and juvenile homicide is exemplified further by the results of a study conducted by Dr. Dorothy Lewis,¹⁰ a leading expert in the field of violence and capital murder. She found that 62% of homicidal children lived in households where their mother was a victim of spousal abuse. In comparison, only 13% of the non-homicidal children studied were raised in such an environment.¹¹ Such findings are supported by those in the Rochester Youth Study.¹² The study examined three categories of family violence exposure: spousal abuse, abuse of children and climate of violence and hostility. Youths experiencing one type of violence were almost twice as likely as their counterparts in non-violent homes to engage in serious violent behavior. The likelihood increased if more than one type of violence was experienced. Clearly, therefore, “these painful traumas, and the twisted lessons they implied, were not lost on the psyches of the children who witnessed them”¹³ whether as a participant or observer.

Further, violence is often a principal feature within the community and environment in which violent offenders grow up. Violence may permeate every aspect of the child’s daily existence. A study in Chicago by psychiatrist Carl Bell indicates how pervasive these experiences may be.¹⁴ Bell examined youth between the ages of 10 and 18 who lived in typically impoverished areas with correspondingly high rates of crime. 75% of these children had witnessed a murder, robbery, stabbing or shooting, 39% had witnessed a stabbing or shooting and almost a quarter had seen somebody killed. The proximity of such violence is exemplified by the fact that the victims were frequently known to the youths. Moreover, these were not single experiences for many of the youths: 45% witnessed more than one violent event. Evidently this study demonstrates that violence may also be experienced outside of the home environment.

Efforts are often made to remove the child from such abusive and disruptive environments. Institutionalization and placement in care homes is frequently encountered within the personal history of many capital defendants. Such environments may, however fail to alleviate the problems faced by these individuals and instead exacerbate or even expose individuals to different types of and more systematic abuse. Physical violence, gang subcultures and sexual abuse all feature within such experiences. Paradoxically, instead of providing a place of stability, individuals frequently find themselves being moved from one institution or home to another. Continuity and permanence within their lives are all too frequently denied. Widom found such experiences to contribute to fire setting, destructiveness, uncontrollable anger and aggression, sadistic tendencies, chronic fighting and extreme defiance of authority amongst other behavior problems.¹⁵

As Haney emphatically states: “(t)oo often in the lives of capital defendants juvenile institutionalization provides a kind of ‘turning point,’ an experience that helps them resolve the internal struggle over who to be- indeed, over who they can be- in a profoundly negative way.”¹⁶ Within such institutions, individuals

⁹ Horowitz, A. Kids Who Kill: A Critique of How the American Legal System Deals With Juveniles Who Commit Homicide Law and Contemporary Problems, Summer 2000. Further Developments on Previous Symposia

¹⁰ Lewis et al., Homicidally Aggressive Children: Neuropsychiatric and Experiential Correlates, 140 Am. J. Psychiatry 148 (1983)

¹¹ Ibid.

¹² Hawkins, J.D. Herrenkohl, Farrington, Brewer, Catalano, Harachi & Cothorn. *Predictors of Youth Violence*. Juvenile Justice Bulletin. U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention

¹³ Supra. Note 4. p.10

¹⁴ Rutenburg, H., The Limited Promise of Public Health Methodologies to Prevent Youth Violence, 103 *Yale L.J* 1885, 1896(1994) (Citing Carl C. Bell, Esther Jenkins, Community Violence and Children on Chicago’s Southside, *Psychiatry*, Feb. 1993, at 46,49)

¹⁵ C.M.Perez and C.S. Widom, Childhood Victimization and Long term Intellectual and Academic Outcomes, *Child Abuse and Neglect* 18 (1994): 617-633

¹⁶ Haney, p11

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are rarely provided with the help they need and an absence of psychological care and help is common. This scenario, Haney, posits is much the same within adult correctional facilities. The impact of such an environment is not merely limited to emotional and social disorders; research has indicated that such experiences also promote the development of schizophrenic symptoms. (Discussed below)

THE ‘CYCLE OF VIOLENCE’

The prevalence of abuse and trauma within the lives of capital defendants indicates a causal relationship that is supported by the literature. It has long been accepted that “there is a clear and undisputed nexus between child abuse and aggression. Although not all abused children grow up to be abusers, there is a strong correlation that those who are seriously abused become the most violent members of society.” Widom, for example, found that abuse or neglect as a child increased the likelihood of arrest as a juvenile by 59%, as an adult by 28% and engagement in a violent crime by 30%.¹⁷ Further, abused and maltreated individuals committed twice as many offences, were arrested more frequently and were younger than their non-abused counterparts at the time of their first arrest. The latter has been shown to predict later patterns of criminality, including increased serious, variety and duration of criminal problems. A 1996 study found children from violent homes 24 times more likely to commit sexual assault than their counterparts from non-violent homes.¹⁸

As such, a ‘cycle of violence’ has been identified with a wealth of research indicating that the likelihood of becoming an abuser increases if the individual has been the subject of abuse. One of the most consistent patterns to emerge is the parallel between the abuse suffered and adult behavior. Those subjected to physical abuse are more likely than their sexually abused counterparts to resort to violence of a physical nature.¹⁹ As such an intergenerational cycle of violence is perpetuated and symmetry is apparent.

As Haney states, there can be ‘little question about the causal connections’²⁰ between childhood brutality and the commission of capital crimes. A variety of explanations abound for this relationship, from the sociological to the neuroscientific. What is clear however from the research is that no genetic abnormality is associated with crime.²¹

Exposure to violence and trauma, may lead the individual to accept such behaviors as normal. Violence and rejection form the predominant model of interpersonal relationships within their lives and such behavior is reinforced and legitimized. Violence may therefore be a learned response taking the place of other forms of communication. Indeed the child “comes to understand how the world works through the lens of his own abuse.”²² Emulation of these behaviors may also become appealing in that they “align the child with the aggressor instead of the victim.”²³ Correspondingly the threat associated with such behavior diminishes as the individual takes ‘control’ of the situation. In this way the individual perpetuates the ‘cycle of violence.’ Patterns of abuse and victimization also appear to dominate the lives of many abuse

¹⁷ Supra. Note 5.

¹⁸ Dinzinger, 1996. cited in *Adolescent Brain Development*, International Justice Project, 2002.
www.internationaljusticeproject.org

¹⁹ Supra note 5

²⁰ Supra. Note 4

²¹ Lewis, Pincus, Bard, Richardson, Feldman, Pritchep and Yeager, *Neuropsychiatric, Psychoeducational and Family Characteristics of 14 Juveniles Condemned to Death in the United States*

²² James Garbarino et al., *Children in Danger: Coping with the Consequences of Community Violence*, 1992

²³ Rutenburg, H., The Limited Promise of Public Health Methodologies to Prevent Youth Violence, 103 *Yale L.J* 1885, 1896(1994) (Citing Carl C. Bell, Esther Jenkins, Community Violence and Children on Chicago’s Southside, *Psychiatry*, Feb. 1993, at 46,49)

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survivors.²⁴ It is hypothesized that torture and humiliation become a way of life and individuals are often drawn back into similar scenarios where alternate roles of abuser and abused are played out.²⁵

It has been suggested that the cultural concept of masculinity promotes the likelihood of adult violence within boys who have been abused. Studies demonstrate greater levels of gender rigidity in abused individuals who then commit violent crimes.²⁶ Lisak et al. explain that boys are taught to neutralize emotion throughout adolescence in conformity with the social construct of masculinity. Invariably however, abuse conflicts with this process, instead provoking a myriad of intense emotions including fear and helplessness. Such emotions are precisely the type of emotions that are not accepted as masculine states, and an intolerance of their own natural emotions may arise. Suppression of these emotions encourages a greater reliance upon anger, a more acceptable masculine trait and increases the propensity for aggression and violence. Later invocations of threat may result in over arousal due to the intensity of vulnerable emotions and consequently result in manifestations of anger.

Suppression of emotions may also give rise to an inability to feel/understand others pain hence, diminishing a crucial inhibition against interpersonal violence. This is supported in the neuro-developmental and psychiatric research discussed below.

NEURODEVELOPMENTAL IMPLICATIONS

Physical abuse often, due to its nature, results in bodily harm to the individual. Such damage can range from bruising to organic brain injury. Lewis *et al* found head injuries caused by childhood and adolescent abuse to exist in every juvenile offender on death row within their study.²⁷ Each had “histories and/or symptoms consistent with brain damage”, with two-thirds suffering injuries resulting in loss of consciousness, indentation of the cranium or hospitalization. Organic brain damage impacts directly upon the capacity for rational and reasoned thought, interpretation and inhibition of impulses, which in turn may raise issues of culpability.

Whilst it has long been accepted that physical abuse may cause damage to the brain, recent research has indicated that traumatic experiences actually alter the physiological structure of the brain and fundamentally alter brain development.²⁸ As Lewis asserts “intense ongoing stress can change the very structure of our brain, much less its function”²⁹

Dr Martin Teicher, associate Professor of Psychiatry at Harvard and Director of the Biopsychiatry Research Program at McLean Hospital and colleagues, conducted comprehensive studies on the effects of abuse and the brain.³⁰ Using EEG and MRI techniques they documented the physiological changes in the brain and

²⁴ Dr Lewis, *Guilty by Reason of Insanity, A Psychiatrist Explores the Minds of Killers*, 1998, Random House, New York

²⁵ Ibid

²⁶ Lisak, D., Hopper, J., & Song, P. (1996) Factors in the Cycle of Violence: Gender Rigidity and Emotional Constriction. *Journal of Traumatic Stress*, 9, 721-743

²⁷ Supra. Note 22

²⁸ http://www.forouryouth.org/juvejustice/reformissues/devpsych/042100_harvardmed_teichnertodd.html, Teichner, Harvard http://134.174.17.116/focus/2000/Apr21_2000/psychiatry.html

²⁹ Dr Lewis, *Guilty by Reason of Insanity, A Psychiatrist Explores the Minds of Killers*, 1998, Random House, New York

³⁰ Teicher, M., Andersen, S., Polcari, A., Andreson, C., Navalta, C. *Developmental Neurobiology of Childhood Stress and Trauma*. To be published; Teicher et al. *Effects of Methylphenidate on Functional Magnetic Resonance. Relaxometry of the Cerebellar Vermis in Children with AD/HD* Accepted for publication in the American Journal of Psychiatry; Teicher et al. *Early Adverse Experience & the Neurobiology of Borderline Personality Disorder; Gender Differences and Implications for Treatment*. To

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correspondingly identified four different type of abnormalities caused by abuse and neglect. They found changes in the limbic system, left hemisphere of the brain, the corpus callosum (the fibrous band connecting the two halves of the brain) and the cerebellar vermis.

The limbic system is the part of the brain that controls emotions and the major drives within the brain. Teicher et al. found that abuse and trauma were likely to result in disturbances in the electrical impulses thus hampering communication between limbic nerve cells.³¹ Individuals with histories of abuse were almost twice as likely to have EEG disturbances. Such abnormalities are associated with seizures, epileptic fits, self-destructive behavior and greater levels of aggression.

Further, all of these abnormalities were documented as occurring within the left hemisphere of the brain. This intertwines with the second finding of Teicher et al. who found deficient development of the left hemisphere of the brain. Greater reliance therefore is placed upon the right hemisphere of the brain to compensate for the deficiencies of the left. One of the functions of the right hemisphere is the expression of negative affect, hence researchers hypothesize that such deficiencies contribute to the development of depression and increase memory problems.

Teicher et al. also found the corpus callosum to be significantly smaller in abused individuals. The exact reduction was found to be dependent upon both gender and the nature of abuse experienced. Boys who suffered from neglect were found to incur a 24 to 42% reduction, whilst incurring little discernable difference if the abuse was of a sexual nature. A converse relationship could be seen within girls: those experiencing sexual abuse were likely to incur an 18 to 30% reduction in size, whilst those suffering from neglect discerned no obvious reduction.³² The abused individuals also had abnormal patterns of shifting activities from one side of the brain to the other. It is hypothesized that impaired development of the corpus callosum directly impacts the integration of the hemispheres resulting in dramatic and otherwise inexplicable mood and personality shifts.

Increased activity within the cerebellar vermis was also noted in survivors of abuse. The cerebellar vermis regulates the limbic system and emotions and reactions. Teicher et al further found that adults who had experienced physical or sexual abuse were far more likely to experience feelings of *jamais vu* or *déjà vu*, visual disturbances and olfactory hallucinations. These symptoms are found in temporal lobe epilepsy and associated with abnormal limbic systems

The neurological connections (synapses) within the brain are also effected by traumatic experiences.³³ It is widely accepted that “the brain develops and modifies itself in response to experience. Neurons and neuronal connections change in an activity dependent fashion.” Chronic stress and fear associated with trauma may lead the individual to be in a persistent state of fear and hypervigilant at all times.

Abuse and violence activate a set of threat responses within the child’s brain. The brain invokes all necessary survival systems. In many cases such systems are required to be constantly active due to the chronic nature of such abuse. These systems and connections become overdeveloped in a use dependent manner to the neglect of other areas of the brain. Over time these responses may literally ‘wear out’ other

be published in: *Women’s Health & Psychiatry*, Pearson, K.H., Sonswalla, S., B. Rosenbaum, J.F. (Eds.) Lippincott, Williams and Willins 2002

³¹ Teicher, M MD *McLean Researchers Document Brain Damage Linked to Child Abuse and Neglect* at: [Http://www.mcleanhospital.org/publicaffairs/2001214_child_abuse.htm](http://www.mcleanhospital.org/publicaffairs/2001214_child_abuse.htm)

³² It should be noted that the study into the impact of trauma on the corpus callosum did not include individuals who were subject to physical abuse and hence the impact of abuse of this nature remains to be investigated.

³³ Supra. Note 31; Perry, BD *Incubated in Terror: Neurodevelopmental Factors in the Cycle of Violence* In: *children Youth and Violence: The search for solutions* (J Osofsky, Ed.), Guildford Press, New York, pp 124-148, 1997

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parts of the brain which deal with memory, cognition and modulation of emotions and create memories to the extent that the fear response becomes automatic. Hence the brain adapts to the environment and learns the mechanisms necessary for survival. As Perry asserts “it is highly adaptive for a child growing up in a violent environment to be hypersensitive to external stimuli, to be hypervigilant, and to be in a persistent stress-response state.”³⁴

In this state the brain becomes particularly sensitive to external cues and focuses upon non-verbal indicators. The hyper-arousal response may also be triggered when the individual is exposed to a reminder of the earlier trauma. Perceptions of threat, therefore, are hinged upon memories of past traumatic experiences and correspondingly, behavior which may not be intended to be threatening may be construed as such. Further, whilst the adaptive response of the brain is appropriate for an environment in which the threat of abuse is omnipresent, in other contexts, the brain’s development is maladaptive.

The impact of such abuse on synapses was thought to be limited to those experiencing trauma at an early age. Recent adolescent brain development research³⁵ however, indicates that these principles are equally applicable to those experiencing traumatic events in adolescence. During adolescence the brain undergoes a second regeneration of new tissues and excess connections. The selection of connections to discard and conversely those to remain is subject to external experience. The ‘use it or lose it’ principle is applicable and hence the adolescent brain develops use dependent states.³⁶

Perry et al. have documented numerous physical and physiological symptoms that manifest as a consequence of the use-dependent organization of the brain. These include “increased muscle tone, low grade increase in temperature, increased startle response, profound sleep disturbances, affect regulation problems and anxiety.”³⁷

Children in such a position may also engage in disruptive, aggressive, inappropriate or provocative behavior in an attempt to precipitate and thus control the episode of abuse they have come to expect.³⁸ Children learn that it is better and less stressful if they can at least control when the episode will occur and in this way adapt to their learned experience. Unfortunately, such behaviors are frequently misconstrued in other contexts and the individual may be punished, inadvertently re-enforcing the lessons learnt via other experiences.

Teicher et al posit that these neurological alterations in turn provide the neurobiological framework through which early abuse increases the risk of developing psychiatric disorders. Psychiatric disorders are therefore, likely to be intertwined with neurological concerns.

PSYCHIATRIC CONSEQUENCES

Childhood abuse has been shown to play an etiological role in the development of many psychiatric disorders. These include, but are not limited to schizophrenia, conduct disorders, AD/HD, dissociative disorders, personality disorders, anxiety disorders, Post Traumatic Stress Disorder and substance abuse. Numerous studies document the disproportionate prevalence of abuse within those suffering from such disorders. Research within psychiatric hospitals have found up to 81 percent of patients to have suffered childhood trauma.³⁹ Compared to other psychiatric patients, those who suffered childhood abuse, both

³⁴ Ibid.

³⁵ Please see *Adolescent Brain Development, Culpability and the Death Penalty*. A copy can be downloaded from www.internationaljusticeproject.org

³⁶ Supra Note 40, 42

³⁷ Ibid.

³⁸ Ibid.

³⁹ *Adolescent Brain Development, Culpability and the Death Penalty*. International Justice Project 2002. Copies can be obtained from www.internationaljusticeproject.org

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sexual and physical, are more likely to try to commit suicide, be frequently hospitalized, receive more medication and experience higher global symptom severity.⁴⁰ Further, the British Psychological Society acknowledged that “many people who have psychotic experiences have experienced abuse or trauma at some point in their lives”⁴¹ An observation that is supported by the literature. Dr Lewis’s research on death row defendants highlights the prevalence of psychosis within such individuals.

Lewis *et al* studied 14 individuals on death row who were juvenile offenders, those under the age of 18 at the time of the offense. The individuals selected consisted of all juvenile offenders on death row in four states. Each individual was then the subject of interdisciplinary examinations including psychiatric, psychological, neurological, educational and electroencephalographic testing. These examinations also encompassed a thorough delineation of their medical, social and environmental histories.

At the time of the evaluation, 50% of the juveniles were psychotic or had been so diagnosed during their childhood. The remainder suffered from severe mood disorders, disturbed thinking including periodic paranoia. An examination of the subject’s histories revealed that in 50% psychiatric symptoms were exhibited during childhood and in all cases such symptoms preceded the crime for which the were sentenced to death. Psychiatric treatment and hospitalization also featured prominently within their past. Lewis also documented the existence of multiple personality disorder. Lewis argues that through a process of dissociation children and adolescents literally drift away and another personality is created to brave the pain and trauma of the abuse. There may be more than one personality exhibited and the primary initial personality of the individual may be unable to recall events when manifesting a separate personality. To this end the separate personality becomes almost a separate entity. There is often an ambivalent relationship between the various personalities. Protective personality states, those that are the conduit for trauma, may express desires to harm the child whose pain they endured. Lewis argues that seemingly inexplicable attempts at self harm and even suicide may be explained by this. The personalities may be reflected within physiological responses such as a different body temperatures, heart rates and blood pressure. Lewis states that such personalities often leave behind a trail of evidence. This may include profound differences in signatures, academic achievement, voice, mannerisms, handwriting and sophistication in drawing.

The dissociative process Lewis alludes to is widely recognized within the literature on the impact of childhood abuse. The predominant model of response to threat is that of “fight or flight”.⁴² Children, however often lack the capacity or resources to do either. Infants and small children learn quickly that the normal manifestations of alarm are unsuccessful and may provoke further distress. To this end these children will abandon normal responses such as crying and resisting, instead developing a ‘learned helplessness’. They learn that their cries do not invoke comfort or removal from the situation but may exacerbate it. Correspondingly the child may adopt other adaptive behaviors, which may include activation of dissociative adaptations. In this respect the child mentally flees from the situation. This can involve daydreaming, distraction, otherworldliness, fantasy, depersonalization and in the extreme black outs, fainting and catatonia. Children may articulate such behaviours as ‘going to a different place.’ Manifestations of dissociative disorders include an inability for empathy, lack of emotion and passivity. Each of these may later impinge upon jury perceptions of guilt and remorse.

⁴⁰ Read et al. The Contribution of early Traumatic Events to schizophrenia in some patients: A Traumagenic Neurodevelopmental Model. *Psychiatry* 64 (4) Winter 2001 quoting Kinderman et al. 2000

⁴¹ Ibid

⁴² Perry, B.D. The Neurodevelopmental Impact of Violence in Childhood. In Schetky D & Benedek E. (Eds.) *Textbook of Child and Adolescent Forensic Psychiatry*. Washington, D.C.: American Psychiatric Press, Inc (221-238). Also available at www.childtrauma.org

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An abundance of research also connects the onset of Attention-Deficit/Hyperactivity Disorder (AD/HD) with childhood trauma and abuse.⁴³ AD/HD is characterized by developmentally inappropriate impulsivity, attention, and in some cases, hyperactivity. It has been estimated that AD/HD occurs in approximately 30% of severely abused and traumatized children⁴⁴ in comparison to a normal prevalence rate of 3 to 6 percent.⁴⁵ The emergence of AD/HD may be dependant upon the age at which the traumatic event(s) took place. Early childhood abuse was found to be more likely to result in symptomology consistent with AD/HD. In contrast, those experiencing abuse and trauma at later stages of life exhibited depressive states.

An individual suffering from AD/HD is also likely to suffer from co-existing disorders. The most common disorders to occur with AD/HD are disruptive behaviour, conduct disorders, mood disorders, anxiety disorders, tics and tourettes syndrome and learning disabilities. If untreated, such disorders may result in aggression and violence. Further, almost fifty percent of those with AD/HD suffer from depression.

Depression is one of the most frequent consequences of childhood abuse and trauma. A lack of self worth combined with recurring memories of abuse and a sense of isolation, invariably the result of poor interpersonal skills will inevitably impinge upon mental health. Unsurprisingly, children may lose interest in their environment and the things around them and experience feelings of increasing rejection and isolation. Attempts to commit suicide are demonstrably indicative of such emotions. Many capital defendants have a history of suicide attempts and may continue to attempt suicide post conviction.⁴⁶

Neurologically, the impact of abuse and trauma upon the left hemisphere of the brain which results in stunted development may contribute to the facilitation of such depression. As detailed above, Teicher et al. delineate an increased reliance upon the right hemisphere when dealing with negative memories. One function of the right hemisphere is the expression of negative emotions and activity. Depression has also been associated with hypersecretion of various chemicals and hormones, which in turn has been connected to early life stress.⁴⁷

Depression, ostensibly, may appear to be relatively benign. However, depression is often internalized and rarely explored or treated. Correspondingly, depressive states may metamorphose into anger and engender rage, eventually manifesting in violence. A recent report indicates that approximately a third of those suffering from depression are openly hostile towards others. Further many depression sufferers report experiencing “anger attacks” in response to even minor irritations. Such attacks are characterized by extreme perspiration, increased heart rate, tightness in their chest and hot flashes. Over sixty percent of those experiencing anger attacks admit to physically attacking others during such episodes.⁴⁸ Depression may also facilitate the development of more serious psychiatric conditions.

A multitude of studies worldwide have pointed to the high prevalence of Post Traumatic Stress Disorder (PTSD) within juveniles and adults who have suffered traumatic experiences. PTSD has traditionally been linked to war veterans, soldiers and children living in war ravaged countries. However it is growing increasingly clear that many individuals with histories of abuse exhibit the primary symptoms of the syndrome⁴⁹. The incidence of PTSD within juvenile delinquents is also higher than normally expected. A

⁴³ Pynoos et al. found a connection between childhood trauma and the onset of AD/HD. Similarly Putnam documented high prevalence rates within children with a history of sexual abuse. In Supra Note 30

⁴⁴ Supra. Note 30.

⁴⁵ Supra, note 41; www.chadd.org

⁴⁷ Teicher, M., Andersen, S., Polcari, A., Anderson, C., Navalta, C. *Developmental Neurobiology of Childhood Stress and Trauma*. To be published

⁴⁸ Fava, M. et al. Anger attacks in patients with depression. *J Clin Psychiatry* 1999; 60 Supple 15:21-4.

⁴⁹ Browne A, Finkelhor D, Impact of child sexual abuse: a review of the literature. *Psychol Bull* 99 66-77, 1986; Perry, BD *Neurobiological Sequelae of Childhood Trauma: Post traumatic Stress Disorders in*

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study by Steiner et al. discovered 32% of delinquent youths were found to have PTSD reflecting the increased risk of exposure to trauma and abuse within this population.⁵⁰

The development and severity of PTSD is dependant upon several factors.⁵¹ These include the extent to which body integrity is breached, familial support and family history of psychiatric disorder. As discussed above the vast majority of those prosecuted for violent crime have an unstable family background and lack a support network, thus such individuals form a high risk class.

The primary symptoms of PTSD fall into three categories.⁵² First, the individual may experience recurring recollection of the event such as in flashbacks or dream. Second, the individual may persistently avoid anything associated with the trauma or experience a numbing of their responsiveness. Third and perhaps the most well known, the individual may be in a state of constant arousal and hypervigilance. Physical manifestations of PTSD include increased muscle tone, abnormal heart rates and increased startle response. Sleep abnormalities, increased anxiety and impulsivity are also common.

The nature of any familial history of psychiatric disorder impinges directly upon the symptoms expressed. Individuals with a family history of schizophrenia primarily exhibit pre-psychotic and psychotic symptoms. Conversely those with a familial history of affective or anxiety disorders are more likely to display mood and anxiety disordered symptoms and if there was a history of alcohol or substance abuse, conduct disorders are the most frequent in occurrence.

Further the age at which the traumatic event occurred or started also impacted upon the nature of symptoms exhibited. Perry's results indicate that abuse and trauma suffered in the early years of development resulted in a far greater likelihood of pre-psychotic and psychotic symptoms, whereas, later experiences of trauma resulted in a far greater manifestation of affective and anxiety disorders, similar to those experienced by adult PTSD sufferers. Clearly therefore, the manifestation of PTSD symptomology is highly dependent upon a variety of factors.

Associated with PTSD are processes such as a lesser level of self restraint, impulse control, and problems inhibiting aggressive behavior.⁵³ The ability to discern actual risk and aggression may also be diminished and hence inappropriate behaviors may be exhibited. PTSD is also associated with substance abuse; people experiencing the symptoms of PTSD often attempt to self-medicate and gain relief from the persistent memories of abuse through the use of alcohol and drugs.⁵⁴

It should be noted that such PTSD symptoms lend themselves to a misdiagnosis of Attention Deficit Hyperactivity Disorder (ADHD) conduct disorders, anxiety disorders, autonomic nervous system (ANS) hyperarousal and affective disorders.⁵⁵ This is compounded by children's inability to interrelate their symptoms to past events of a traumatic nature.

Children. In: Catecholamine Function in Post Traumatic Stress Disorder: Emerging Concepts (M Murberg, ED) American Psychiatric Press, Washington, DC, 253-276, 1994;

⁵⁰ Steiner, H., I.G. Garcia and Z. Matthews. 1997. Posttraumatic stress disorder in incarcerated juvenile delinquents. *Journal of the American Academy of Child and Adolescent Psychiatry* 36:357-365

⁵¹ Supra. Note 36

⁵² Perry, BD Neurobiological Sequelae of Childhood Trauma: Post-traumatic Stress Disorders in Children. In: Catecholamine Function in Post Traumatic Stress Disorder: Emerging Concepts (M Murberg, Ed.) American Psychiatric Press, Washington, DC, 253-276, 1994

⁵³ Steiner, Garcia & Matthews. SEE ABOVE

⁵⁴ C.S. Widom, S Hiller-Sturmhofel, alcohol abuse as a risk factor for and Consequence of Child Abuse citing Miller et al. Alcohol, drugs and violence in children's lives. In Galanter, M., ed. *Recent Developments in Alcoholism: Volume 13. Alcoholism and Violence*. New York: Plenum Press, 199. pp.357-385

⁵⁵ Supra 41, Terr, L.A., Childhood Traumas: An Outline and an Overview *AM. J. Psychiatry* 148 1-20, 1991

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Many individuals suffering from psychiatric disorders are often found to have substance problems and addictions. Individuals often turn to alcohol and drugs in attempt to self medicate and escape from their experiences or memories of past traumatic events. As Professor Haney asserts ‘often their own parent’s drug and alcohol abuse provides them with their most available and salient model for resolving interpersonal conflict and reducing intolerable levels of stress or depression.’⁵⁶

Cornell et al. in their study of homicidal juveniles found that 36% regularly or heavily used alcohol, whilst an even greater proportion (40%) used drugs regularly or heavily.⁵⁷ The prevalence and correlation of substance abuse to violent and homicidal crime has been recognized by the U.S. Department of Justice: The Office of Juvenile Justice and Delinquency concluded that “although the extent of the connection between youth violence and these two categories of heightened risk is unclear, the connection itself is undeniable.”⁵⁸ Histories of substance abuse are therefore common and may form another factor in explaining later violent behavior.

COGNITIVE DEVELOPMENT

Abuse and trauma may also impede cognitive development and arrest development in children. In this regard all aspects of a child’s functioning may be frustrated. It is estimated that between 10 to 25 percent of all developmental disabilities are a consequence of violence.⁵⁹ Reduced social skills, mental retardation, poor emotional stability and a lesser ability for abstract thought have all been documented as consequences of trauma. Many abused children also fail to complete a basic education; survival taking a greater priority. Those that do attend school may find it difficult to learn. Psychiatric disorders such as AD/HD and conduct disorders may hinder the ability to sit still and absorb materials.

Further the neuronal system may simply not be equipped for the processing of such information due to the persisting state of fear discussed above. Indeed, preliminary studies by Dr Bruce Perry indicate that neglect and lack of sensory experience leads to underdevelopment of the cortex resulting in stunted cognitive development. The cortex facilitates inhibition, modulation and regulation of the functioning of the central nervous system. Correspondingly growth of this area is hypothesized to decrease aggression and violent behavior. The cortex, Perry states also develops in a use dependent manner. Correspondingly a lack of stimulation of these connections will impede development of cognitive and abstract thought abilities and impede learning.

CONCLUSION

The incidence of trauma has been established to be most pronounced within those individuals within the justice system. The issues surrounding why this is are slowly being unraveled. However, it can be seen that the implications of trauma on development and later behavior extend into the realms of psychology, neurology, psychiatry and sociology. The impact of such an event, or as more frequently appears to be the case, a continuum of events, is thus far greater than a cursory examination would reveal.

⁵⁶ Supra Note 4 p13

⁵⁷ Horowitz, A. Kids Who Kill: A Critique of How the American Legal System Deals With Juveniles Who Commit Homicide Law and Contemporary Problems, Summer 2000. Further Developments on Previous Symposia (citing Cornell et al., Characteristics of Adolescents Charged With Homicide: Review of 72 Cases, 5 Behav. Sci. & Law 1, 18-19 (1987))

⁵⁸ Supra. Note 4

⁵⁹ Adolescent Brain Development, Culpability and the Death Penalty, International Justice Project, 2002. Copies can be obtained at www.internationaljusticeproject.org Citing Sobsey, 1994; Valenti-Hein and Swartz, 1995

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The impact of abuse and trauma upon an individual is dependent upon many variables. Abuse and trauma do not occur within a vacuum; instead these experiences must be viewed in conjunction with other hardships suffered. Frequently defendants experiencing abuse and trauma are often raised in impoverished environments where poverty, violence and neglect are inextricably woven into the very fabric of their everyday life. Many have also suffered from substance abuse, low intelligence, mental retardation, mental illness, neglect and a failure to complete an even basic education. As Haney asserts: “The nexus between poverty, childhood abuse and neglect, social and emotional dysfunction, alcohol and drug abuse, and crime, is so tight in the lives of many capital defendants as to form a kind of social historical profile.”⁶⁰

Clearly many factors may emerge in the individual’s case and correspondingly individual’s experiences vary. It is clear however that “(a)s untoward influences accumulate, they can greatly affect the probability of engaging in maladaptive strategies and can decrease the likelihood that rational decision making plays a central role in selecting courses of action.”⁶¹

⁶⁰ Supra. Note 4 p10.

⁶¹ Ibid