Ch.6 Adolescent Development

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Adolescence is a period of significant transformation from childhood to adulthood. The change during this period is equaled only by the growth and development that happens in infants. Adolescence is marked by tremendous physical, cognitive, emotional, and social challenges and growth. This chapter describes the myriad changes that occur in the bodies, minds, and lives of typical adolescents. Although there is a definite expected pattern of development, many adolescents encounter roadblocks along the way, whether related to differences in biology, environment, or a combination of both. This chapter addresses some of the challenges to appropriate adolescent development that may arise in the lives of many young people. Unfortunately, some challenges may contribute to the youth’s involvement in unacceptable or illegal activities, which in turn change the path of that youth’s development.

A transition is change and movement from one state to another. As disruptive and complicated as this can be, the most hopeful aspect of transition is the opportunity for choosing which path to take forward. A crucial role of society and its adults is to provide the greatest number of positive paths for adolescents to choose from, as they become the next generation of leaders and to minimize the factors that lead adolescents to more negative and destructive paths. One of the most important developments of adolescence is in the ability to make reasonable, rational choices for oneself. An adolescent’s development cannot proceed appropriately without making choices and learning from good and bad ones alike.

When an adolescent enters the juvenile justice system, in most cases, the opportunity for daily choices is greatly curtailed. Movement, routines, behavior, activities, and social associations are all strictly prescribed and closely monitored. The typically adolescent traits of risk-taking, pushing boundaries, and self-expression are all discouraged (reasonably so) in facilities. How does this strange environment impact adolescent development? Is it possible for the critical changes in adolescence to occur in such a setting? It is similar to uprooting a tree and planting that tree in a different type of soil, with reduced sunlight, less water, and a different temperature. Is it reasonable to expect that tree to continue to produce its fruit as expected? This is not meant to argue that confinement facilities are
dark and barren places of deprivation, as many facilities provide great opportunities for growth and support for youth. However, many of the ingredients for healthy adolescent development are very difficult to provide in facilities, even with the best of intentions.

Even though the environment in facilities can be challenging for ongoing and appropriate development, that development does not stop. This chapter should stimulate thought about the role of confinement facility staff as a strong and positive force to guide young people to a more successful and meaningful life.

**Theories of Development**

Adolescence is the normal, distinct, and expected period of development between childhood and adulthood. In childhood, parents are responsible for regulating the behavior of their children. Adults are responsible for regulating their own behavior.[1] This shift in primary responsibility for behavior, and all that this entails, is perhaps the greatest task of adolescent development. Behavior in adolescence tends to be characterized by several different factors. Adolescents seem to be driven to experiment and take more risks. They are much more susceptible to the influence of their peers and make efforts to pull away from the influence of family. These behaviors help the adolescent develop his or her own personal identity and help an adolescent acquire the basic skills and experience necessary to move from relative dependence on parents to independence.

There are numerous theories that describe the process of human development, and specifically adolescent development. These theories are based on observations of behaviors and changes and attempt to outline and explain typical expectations, outcomes, and obstacles that occur. All human beings progress through stages and processes as they develop. These processes include the maturation of biological systems, cognitive abilities, personality, emotional regulation, and appropriate and healthy social skills. Development occurs in sequential stages—each stage building on previous stages. It involves interdependent physical, cognitive, emotional, and social factors. It is vitally important to be aware of the great diversity in the rate and specifics of development in adolescence; age or physical appearance are not necessarily valid indicators of development. Increasing amounts of scientific data provide a biological understanding of why adolescents behave in the ways they do.

One of the most influential theories of development is the concept of psychosocial stages from developmental psychologist Erik Erikson. He proposed eight stages in his 1950 book, *Childhood and Society* (and later expanded in further publications), which extend throughout life, from infancy to old age. Each stage is defined by the competition of two different forces creating a “crisis” that must be resolved to obtain the appropriate “virtue” from that developmental stage. According to Erikson’s theory, the resolution of these crises and acquisition of the necessary virtues depends in large part on the individual’s
own traits and abilities but also on the presence of vital social support from family, peers, and society. The major forces competing during the adolescent period are “identity versus role confusion,” with the goal of obtaining “fidelity” when the conflict is resolved appropriately. In this context, fidelity implies an individual’s ability to remain committed to a certain identity and belief system, even in the midst of conflicting values and demands in his or her life.[2] Most important, in the context of this chapter, is the understanding that an adolescent’s major task is the formation of a solid identity and the ability to understand his or her place in the world as a productive and contributing member of society.

Positive Youth Development (PYD)

Another important development in the field of adolescent development and work with adolescents is the perspective of positive youth development, or PYD. This approach to understanding adolescence emphasizes the possibility of change and the idea that youth represent a resource to develop rather than a potential problem to be managed. This strengths-based perspective relies on the belief that if youth have mutually beneficial relationships with the people and institutions of their social world, then they will be able to create a life of positive contributions to their families, communities, society, and their own lives. PYD has developed from a variety of different sources, from academic research to the experience of youth workers. It has been strengthened and developed through contributions from various fields of sociology and developmental and community psychology.[3]

The PYD perspective stresses the capacity for change. It argues that change occurs most powerfully in the context of mutually influential relationships between an adolescent and his biology, psychology, family, culture, community, environment, and historical context. This perspective focuses attention on the strengths of adolescents and encourages what have been called the Five C’s of PYD: competence, confidence, character, connection, and caring. PYD argues that the acquisition of these characteristics requires several interventions. These include positive and sustained adult–youth relationships, activities that promote skill building in youth, and opportunities for adolescents to participate in and lead community-based activities.[4]

The PYD approach to adolescents is not a program in itself. Indeed, many programs in confinement facilities have attempted to incorporate PYD principles in a manner that works in their particular contexts. It is very important to understand that this philosophy can provide a basis for personal, individual contact with adolescents even in confinement facilities. Each interaction that a staff member has with an adolescent in a facility has the potential to help build the Five C’s in that youth’s life. This is even more important in facilities, given that incarcerated adolescents often have poor relationships with adults, disconnection with their communities, few opportunities to build skills, and little chance to participate in ongoing pro-social activities.
In addition to strengths, adolescents also have basic developmental needs that must be addressed adequately for positive growth and development to occur. These needs include physical activity, competence and achievement, self-definition, creative expression, positive social interactions, structure and clear limits, and meaningful participation.

Activity

It is important that any program designed to serve youth provides a means for the constructive channeling of energy through physical activity. There is a particular need for at least some involvement in sports and activities that allows for differences in strength, dexterity, and size. Adolescents are learning to operate their rapidly changing and maturing bodies, and they need space and opportunity to test out their new strength and skills. In addition, establishing habits of healthy exercise in adolescence is vital to lay the groundwork for ongoing physical health in adulthood. Adolescents are being driven biologically to begin to compete in life, and providing structured outlets for this sense of competition will help to prevent or counteract more negative manifestations of competition that can arise in confinement facilities. As an alternative to competitive activities, the New Games movement, introduced in the late 1960s and early 1970s, encourages participation in more cooperative, interactive games and activities. Although these games sometimes include competition, the more important focus of New Games is on participants playing together and having fun, rather than playing against one another in an effort to win, which serves to more effectively bring members of diverse groups together. (See Ch. 10: Effective Programs and Services).

Competence

All human beings (and adolescents in particular) need to have their accomplishments recognized and valued by individuals they respect. The opportunity to develop skills and to succeed at activities is absolutely vital for youth to develop a sense of competence. Adolescence is perhaps the most important developmental stage in terms of establishing a sense of one’s strengths and abilities and forming a more consistent self-image. Adolescents in confinement facilities may often get a clear message that they are far from competent and can easily take on an identity of being a failure and disappointment. On the other hand, through engagement in positive activities with positive feedback from adults, adolescents can begin to develop a sense of their ability to make a positive difference in their world.

Identity

Adolescents need to adjust to the new self that they are becoming. Rapid change requires time to absorb new ways of thinking, feeling, and reacting to others. It requires time to reflect on the meaning of new experiences in exploring a widening world and to integrate those experiences into a new self-concept. Adolescents, especially in the early and middle years of the stage, may still think concretely about themselves and their world and lack the
ability at times to use more abstract and objective thinking about themselves. Adolescent emotion also heavily influences the ability to reason. It is extremely important for adolescents to form a more consistent identity so that they can begin to differentiate who they are from what happens to them and where they are.

Social Skills

Adolescents need positive social interactions with peers and adults. Youth need relationships with reassuring and informed adults who like and respect them for who they are. An effective staff member in a confinement facility must be able to respond sensitively to an adolescent’s rapidly changing emotions and thoughts. Ideally, staff in facilities should strive to be role models of healthy, functioning adults, helping youth to navigate their own pathways in terms of values, beliefs, and personal integrity. Healthy interactions with peers provide support and companionship, while creating opportunities to deal with criticism and promoting identification, imitation, and individualization. Adolescents are also driven by increased sexual and emotional feelings to seek out romantic and sexual relationships, which can be extremely difficult to manage in confinement facilities. It is vital that staff members acknowledge that these feelings are there and to establish clear expectations of appropriate behaviors around such issues without suppressing or shaming youth.

Another vital aspect of socialization is the opportunity for adolescents to have fun. The typical adolescent often values time with friends over anything else, and these interactions are essential for developing all of the other basic needs of adolescence. As discussed later, the adolescent brain is wired to seek out peer interactions and is motivated very powerfully by these relationships. Confinement facilities are not typically known for being fun, but effective programs need to include opportunities for adolescents to have fun in the context of their social groups. Programming in a confinement facility that prohibits youth from interacting and socializing with one another (during meals, free time, recreational activities) inhibits the development of appropriate social skills. Needed during these activities are structure, direction, and supportive supervision by caring adults to ensure that youth interactions are healthy and appropriate.

Structure

Adolescents must have structure and clear limits with flexibility to accommodate their ever-increasing capabilities. Clear expectations help uncertain, self-critical youth by defining areas where they can legitimately have the freedom to explore, which allows for safe experimentation with new emotions, sensations, and behaviors. Establishing expectations should become an increasingly participatory process so adolescents can gain experience in setting their own limits.

Engagement
Adolescents need to see themselves as participants and not merely observers. It is through this process of engagement that they learn to experience themselves as contributing members of their communities. Adolescents hate to be bored, and they often seek any kind of stimulation when they are bored. It is vital to keep adolescents in confinement facilities occupied and engaged in thoughts and activities to prevent them from creating their own excitement, which is usually not entirely positive. They should also be expected to plan and participate in activities that are more pro-social, allowing them to explore new interests and abilities and to develop a deeper sense of responsibility for making choices and engaging in their own lives.

**The Onset of Puberty**

Most people view adolescence as a particularly volatile and unpredictable time. Even the very definition of adolescence can be controversial and is interpreted in different ways. The lower limit of adolescence has traditionally been associated with the beginning of the teen years. However, the onset of puberty has become earlier for U.S. youth, and many states have lowered the age of responsibility for certain crimes in the past few decades. As more scientific evidence emerges about the developmental changes in a young brain, the upper limit of adolescence has also increased. The legal age of adulthood, with its benefits and responsibilities, is usually age 18. However, it is evident that the brain continues to develop vital and significant capabilities even into the mid-20s, suggesting that brain maturation does not reach adult capacity until then.\[5\]

Puberty is the process of sexual maturation that often signals the beginning of adolescence. The body is transformed from a child’s body into an adult’s body, with dramatic changes in size, appearance, and function. In the U.S., the average age of onset of puberty is for girls ages 10–11 years, and for boys ages 11–12. It typically takes 4–6 years for an individual to move through the stage of puberty. Puberty is characterized by the increased release of sex hormones, which are powerful signals to the body and brain to grow and develop. Physical growth is tremendous in terms of height, weight, and redistribution of fat and muscles. Secondary sexual characteristics also appear, including body hair, skin changes (acne), and body odor. The ability to reproduce and related sexual behavior also emerges during this time.\[6\]

As mentioned earlier, physical and sexual maturation occurs at different rates and in different ways for each individual. Some youth develop physically at much younger ages than others, which can cause significant difficulties for some young people. For example, there is some evidence that girls who enter puberty earlier ultimately have shorter stature and a higher incidence of mental health issues.\[7\] Boys who begin puberty early have been shown in some studies to have an increased risk of early sexual activity and engagement in risky behaviors. On the other hand, those youth who begin puberty later are also at risk of social stigma.\[8\] Even typical puberty can be very awkward and difficult for adolescents who are struggling to understand their new bodies and the new feelings that accompany
this physical development. These changes may be especially hard to manage for youth in facilities, due to the relative lack of privacy from their peers and from staff who need to monitor normally private activities (showers, bathroom, changing clothes).

The physical changes of puberty are also accompanied by increased emotions and sexual desire. It is expected that adolescents will begin to seek out relationships and sexual activity, and confinement in a facility can significantly hinder this aspect of typical adolescent development. It is very important to consider strategies to help youth begin to develop an understanding of meaningful and healthy sexual and romantic relationships in the context of a confinement setting, more for educational rather than practical purposes. Development and expression of sexual orientation occurs throughout this period as well, and this process can be even more confusing and difficult for youth in settings that are segregated by gender. Sexual exploration, most often through masturbation, will also occur and should be addressed specifically by staff in terms of balancing privacy and the need for required visual monitoring by staff.

Perhaps one of the most important things to remember about physical development is that, although youth may look like adults, their cognitive and emotional development may not be as advanced. In fact, adolescents whose bodies have matured and developed may still think and feel much like children. This emotional immaturity can be confusing for them and the adults around them, leading to unreasonable expectations and frustrations. Physical growth does not necessarily have any correlation with how mature a young person is, mentally, cognitively, or emotionally.

The Healthy Adolescent Brain

Although puberty is associated with children developing into adults through adolescence, it appears that other changes occur during this time that are not necessarily related to sex hormones and that involve several other very important chemical and structural changes in the brain. Research into adolescent brain development has expanded greatly in the past decade, due in large part to the increased ability to observe and understand the functioning of the brain. Research tools such as functional magnetic resonance imaging (fMRI) and diffusion tensor imaging (DTI) enable scientists to observe and measure brain function and changes in ways that were not possible in the past. Researchers have also identified various chemicals in the brain called neurotransmitters that serve as messengers between neurons, which are the basic building blocks of the brain and its functions. These messengers work by activating specific receptors on other neurons, similar to a key fitting into a lock.

This section describes some of the important structures and neurotransmitters in the brain that play a role in many typical adolescent behaviors. Brain research is still in its relatively early stages, and it is very difficult to interpret and predict behaviors based on neurochemical studies and imaging observations. However, this research, together with
other remarkable studies that are combining behavior with functional brain studies, is helping us understand the behavioral and emotional changes that occur during adolescence.

Dopamine and the “Pleasure Center”

One of the most important neurotransmitters is dopamine, which plays a role in many different functions in the brain, including cognition (thinking and awareness), voluntary movement, sleep, mood, attention, memory, learning, motivation, and reward. Dopamine has been associated with the reward system in the brain, increasing feelings of pleasure and reinforcing activities that bring enjoyment. This chemical is released in a part of the brain called the nucleus accumbens (also called the “pleasure center”) in response to food, sex, certain drugs (amphetamines, cocaine, nicotine, morphine), and stimuli that are associated with them.[9] Dopamine acts as a powerful motivational substance in response to anticipation of rewards as well.

Another part of the brain that is extremely important in the discussion of adolescent development is the prefrontal cortex, which lies at the front of the brain. The significance of the prefrontal cortex is that it is involved in the planning and regulation of complex behaviors and social interactions. It is felt to be the center of executive function in the brain, serving as the “CEO” of one’s life. Executive functions include resolving internal conflicts, planning and organizing for the future, prioritizing needs and actions and beliefs, making goals and decisions, predicting outcomes, promoting impulse control, and managing social interactions.[10]

Beginning at around age 9, dopamine receptors start to undergo a significant redistribution in the brain. In early adolescence, which is typically defined as ages 10–13 for research purposes, dopamine activity in the prefrontal cortex of the brain is higher than at any other time in a person’s life.[11] The changes that occur in the dopamine system during this time (redistribution and changes in concentration of receptors in various areas of the brain) result in a much more efficient dopamine transmission system. Stimuli that are rewarding to an individual are even more rewarding during this time; those rewards have much greater salience, or greater importance, relative to other factors.[12]

Risk Taking

This discovery matches behavioral observations of youth, who show higher scores in studies of sensation seeking, risk preference, and sensitivity to rewards. Scores tend to peak in mid-adolescence (ages 13–16) and then start to decline. This is manifested in a preference for short-term rewards over long-term rewards in young adolescents. There is increased dopamine activity in the pleasure center of the brain in young adolescents in response to risky behaviors, which means that risky behaviors stimulate the reward system in the adolescent brain. Adolescents attach much greater value to the rewards associated with risk-taking than either children or adults do. Further, there is also evidence that
adolescents and adults may be able to perceive risks of certain behaviors similarly, but they tend to evaluate the rewards differently; adolescents feel a relatively increased power of rewards.[13]

These findings help to explain why adolescents tend to seek out risky behaviors. They simply feel more reward, not just from the activity itself, but also from the fact that it is risky. For example, an adolescent may choose to drive fast for several reasons. First, the thrill of driving fast likely has more importance for an adolescent than for an adult. In addition, the fact that driving fast has inherent risks offers an additional reward. It appears that adolescents are equally aware of the potential negative outcomes of driving fast as adults (potential to crash, receive a speeding ticket). However, the relative perceived importance of the rewards over the potential risks may lead the adolescent to drive fast more often than an adult would.

A recent study involving adolescents and driving conducted by Dr. Laurence Steinberg, a psychologist at Temple University, underscores another significant component of adolescent development: the influence of peers. Three groups of individuals—adolescents (mean age 14), young adults (mean age 20), and adults (mean age 40) were asked to play a video game in which they drove cars and received rewards for completing certain tasks that involved increasing risks. During the game, researchers monitored the activity of their brains using fMRI scans. The level of risky driving was comparable between the age groups when they played the game alone. However, when asked to play the game in the presence of peers, risky driving doubled in adolescents, increased by 50% in young adults, and showed no change in adults. The results from the fMRI showed that the presence of peers caused activation of regions of the brain that were not activated when performing the task alone. With peers present, there was increased activity in the pleasure center of the brain, and other neural circuits that are associated with the reward cycle.[14]

There is another powerful neurotransmitter called oxytocin whose impact is highly strengthened during adolescence. Oxytocin is a hormone and neurotransmitter that is essential for emotional and social bonding and that regulates the recognition and memory of social stimuli.[15] It is the hormone that is released in large amounts during childbirth and breastfeeding to stimulate bonding between a mother and newborn infant. Receptors for oxytocin proliferate in the adolescent brain, largely mediated by the increase in sex hormones. The release of oxytocin results in heightened activation of brain regions associated with reward and social bonding. Thus, adolescents appear to interpret social acceptance by peers as with other types of rewards, due to the overlap in brain systems that process rewards and social stimuli.[16]

Peer Influence

This very powerful social aspect of adolescent behavior helps to explain the many different risks that increase in the presence of adolescent peers. Adolescent crime occurs
much more often in the context of groups, as opposed to adults, who tend to commit crimes more often when they are alone.[17] The presence of another adolescent as a passenger in a car significantly increases the risk of a serious accident. Adolescents are more likely to be sexually active if their peers are and even if they just believe their peers are (whether or not this is not true).[18] One of the strongest predictors of an adolescent’s substance use is the degree of his or her peer group’s substance use.[19] For reasons likely related to the perceived rewards of antisocial behaviors, early adolescents (up to ages 13–14) find it more difficult to resist antisocial influences than they do neutral or pro-social influences. It is only after the age of 14 that adolescents typically start to show increased resistance to all forms of peer influence.[20] It is extremely important to recognize this vital biological and social force that significantly influences the behavior of adolescents, especially given who their peers are in juvenile confinement facilities. This also provides a powerful argument for establishing classification systems for youth in detention facilities that take into account the tremendous differences in social development for youth of different ages.

Emotion Processing

Another crucial component of the brain that contributes a great deal to an understanding of adolescent behavior is the limbic system. The limbic system is composed of several different structures, including the amygdala, and is responsible for key aspects of social processing. The function of the limbic system includes recognition of socially relevant stimuli (faces, for example), social judgments (appraisals of others, attractiveness, assessing the intentions of others, evaluating race), and social reasoning.[21] The amygdala—which makes up a small but vital part of the limbic system—processes emotions such as fear, anger, and pleasure and is responsible for determining what memories are eventually stored. This means that the amygdala plays a key role in determining which environmental stimuli are important to remember, largely from an emotional perspective.[22] There is significant overlap between the limbic system and regions associated with rewards in adolescents.

Automatic emotional responses, such as a fear reaction to seeing a snake slither across a path, are produced in the amygdala, which has numerous connections to other parts of the brain. Its connection to motor and sensory parts of the brain allow us to react to a snake by immediately jumping away or freezing in our steps without having to think through our response. In turn, the connection of the amygdala to the memory and cognitive parts of the brain allow us to modulate our responses to a snake.[23] For example, this allows us to recognize the snake as a harmless garden snake and to reduce our initial emotional fear reaction.

Adolescent behavior is a reflection of the developmental imbalance between the more functionally mature limbic system (more emotional part) of the brain and the relative immaturity of the developing cognitive and executive function systems of the brain. The
“thinking part” of the brain, consisting of neurons and called gray matter, reaches its peak thickness in the brain at age 11 in girls and 12 in boys. After that point, it begins to thin in the prefrontal cortex of the brain (as well as other regions) due to a process called synaptic pruning.[24] This occurs when the brain begins to eliminate unused connections between neurons and begins to reorganize and reinforce pathways that are used.[25] This occurs simultaneously with the restructuring of the dopamine and reward system.

The process of synaptic pruning, which is essentially complete by age 16, reflects cognitive development in the adolescent brain.[26] By age 16, adolescents show marked improvements in understanding and reasoning, and they become capable of more abstract, deliberative, and hypothetical thinking. After this point, adolescents are equal to adults in terms of the basic cognitive abilities of measures of memory, verbal fluency, and logical reasoning.[27] However, when adolescents are asked to complete more complex cognitive tasks that require the coordination of more regions of the brain, they do not reach adult levels until much later.[28] It is very important to note that demonstrating cognitive capacities for understanding and reasoning does not mean demonstrating comparable levels of maturity of judgment, which is affected by both cognitive capabilities as well as psychosocial ones.

### Emotion versus Cognition

In reality, this means that adolescents are able to understand and reason through the risks of certain behaviors, but when emotions are triggered, the relatively more mature limbic system will win over the relatively less mature cognitive system. The combination of the increased response to rewards, the strength of the emotional part of the brain, and the relative immaturity of the executive function or behavioral control part of the brain, leads adolescents to make decisions that are much more short-term in nature and more emotionally driven. For example, in one study, adolescents took longer than adults to respond when asked if certain dangerous activities (such as swimming with sharks or setting one’s hair on fire) were “good ideas.” Their functional brain scans during that time also showed that adults used the cognitive control regions of the brain much more efficiently than adolescents. When asked about nondangerous activities (eating a salad, taking a walk), adolescents and adults performed equally and their patterns of brain activation were similar.[29]

These different ways of thinking have been called “hot and cold cognition.” Hot cognition is the mental process that occurs when emotions have been triggered and there is a more personal stake in the choices that are made. Cold cognition is more intellectual or hypothetical in nature. When faced with a pressing situation that personally and emotionally affects an adolescent, he or she will rely more on feelings and less on intellectual reasoning to make the decision. When the situation is more hypothetical, the adolescent is able to use more logical reasoning to make the choice. Decision-making in adolescents cannot be fully understood without considering the role of emotions and the
interaction between thinking and feeling.[30] Adolescent decisions are unlikely to emerge from a logical evaluation of the risks and benefits of a situation. Instead, adolescent decisions are the result of a complex set of competing feelings—the desire to look cool, fear of being rejected, anxiety about being caught, or the excitement of risk.[31]

The complex interplay between the emotional and cognitive functions of the brain are also evident in difficulties that arise in communication with adolescents. Youth are not very skilled at distinguishing the subtlety of facial expression (excitement, anger, fear, sadness), which can result in miscues. That lack of distinction can result in miscues and inappropriate communication and behavior. There is increased involvement during adolescence of multiple brain regions in tasks involving the processing of emotional information. Youth are less likely to be able to activate multiple brain areas simultaneously, which makes it more difficult for them to think and feel at the same time in making choices.[32] These differences in processing information, both logical and emotional, make misperceptions and misunderstandings of verbal and nonverbal cues more likely in the adolescent brain.

Neural Changes and Integration

Another extremely important biological process that occurs throughout adolescent brain development is the steady increase in myelination of neurons. Myelination is the wrapping of nerve cells by an electrically insulating material called myelin. This enables the speed of messages along nerve cells in the brain to be much faster and more efficient. In addition, myelin helps to modulate the timing and synchronization of messages in the brain, again making nerve transmission much more effective. Myelinated neurons, called “white matter,” initially allow improved and more efficient connections between certain regions of the prefrontal cortex. This allows improvements in certain tasks of executive function, such as improved future orientation, impulse control, planning, and the ability to consider multiple sources of information simultaneously.[33] Later, more connections are established between the prefrontal cortex and other regions of the brain, including the limbic structures and the pleasure center of the brain. This improved connectivity across brain regions leads to improved coordination of emotion and cognition, reflected in improved emotional regulation as a result of the increased connectivity of regions associated with processing emotional and social information (amygdala, nucleus accumbens).[34]

The course of adolescent brain development can be summarized briefly as a rebalancing of the socio-emotional components and the cognitive control system of the brain. The imbalance appears just before puberty, when the emotional (limbic) aspect of the brain—driven by dopamine and the reward system—increases its functioning dramatically. This occurs at a time when the ability of the brain to regulate and modulate the social and emotional feelings has not yet been equally developed. One researcher described this situation as “starting the engines without a skilled driver behind the wheel.”[35] At the
same time, the adolescent brain is primed by very powerful hormones to seek out relationships with and approval from peers.

Adolescents begin to acquire increasing cognitive skills as the thinking part of the brain—the gray matter—is pruned and reorganized. However, even with the improved ability to reason, adolescents are still greatly influenced by emotional components of situations and are not yet able to synthesize and weigh various bits of information to make better judgments. The higher coordination of the cognitive control system develops into the mid-20s, as more specialized and efficient connections are made within and between important centers of brain functioning.[36]

Nature and Nurture

It is important once again to stress the variability in development that occurs in each individual. However, the basic neurochemical changes are very similar and do occur in roughly the same order and time period. The study of adolescent brain development is in its very early stages, and the remarkable information that is available only scratches the surface of the complexity of the brain. The genetics of each adolescent likely play a major role in various neurochemical processes, even down to the molecular level, but research is just beginning in this area. The interplay of genetics and environmental factors is also extremely important but little understood.

One example of the role of the environment in development is the increasingly earlier onset of puberty in children in the U.S. over the past few decades. This is possibly related to changes in nutrition, as obesity has been linked to earlier puberty in girls. There is legitimate concern as well about the exposure to hormones in food and chemicals in the environment that may have an impact on puberty.[37] As discussed above, there is a powerful and not fully understood relationship between the sex hormones and other changes in the brain, and the ultimate impact of earlier release of sex hormones on brain development.

Brain Development and Substance Use

The processes discussed above are the typical stages of brain development. There can be serious assaults on this development from a variety of different environmental factors. One of the most important stressors to consider in the adolescent population in a confinement facility is substance use. There are apparently many factors that attract adolescents to substance use. The chemical and structural changes in the brain that occur during adolescence heighten the drive to seek new and rewarding experiences, and the rewards that they receive from these experiences are also much more intense. The immediate effects of substance use decrease impulse control and impair cognitive abilities in adolescents who already have relative deficits in those areas, compared to adults. Most substance use in adolescents occurs in the presence of peers, which increases the risk of the use itself as well as heightened risk of overuse.[38] The combination of substance use
and peers also makes poor decisions and negative behaviors more likely. In fact, over half of adolescents in a confinement facility report that they were intoxicated at the time of their delinquent acts.[39]

The substance most commonly used by adolescents is alcohol, followed by marijuana.[40] The use of intoxicating substances increases tremendously during the teen years, putting teens at much greater risk for a variety of negative outcomes such as harmful effects on physiological, social, and psychological functioning; increased risk for future substance abuse and dependence disorders; and increased risk of delinquency, aggressive behaviors, risky sexual behaviors, and dangerous driving.[41] Although these relatively immediate effects can have a tremendously negative short-term impact on the lives of adolescents, the long-term effects are also extremely important.

Because of the dramatic development that occurs in the adolescent brain, the use of substances can have a significant deleterious effect and potentially alter the course of brain development. Studies show that there are marked differences in structure and function in the brains of youth who use alcohol, marijuana, or both. In particular, there are decreases in white matter (the paths of neurons that facilitate more efficient and complex communication between different parts of the brain), development in the prefrontal cortex, and impaired development of the coordination of brain processes. This may manifest as impaired development of the cognitive control system of the brain. The quality of the white matter that does develop is decreased in a direct relationship with the amount of alcohol used by that adolescent. The more an adolescent drinks, the poorer the quality of his or her brain tissue.[42]

When youth who use substances undergo neuropsychological testing to measure their brain functioning, the findings are remarkably negative. Adolescent substance users show a multitude of impairments: decreased retention of information, impaired attention, slowed information processing, decreased ability for future planning and abstract reasoning, lower language skills, decreased IQs, increased likelihood of repeating errors when solving problems. Many of these are higher cognitive functions that are expected to develop with the increase in white matter development and connectivity in late adolescence. The long-term data are still limited, but it appears that some of these deficits may persist throughout life.[43]

Given the extremely high risks of substance use in adolescents, prevention and treatment for substance use are vital. One of the most important risk factors for initiating and continuing substance use or abuse that must be addressed is substance use in the youth’s family. There is very likely a genetic component involved, as families with multigenerational use place the adolescent at much greater risk of developing a substance use disorder.[44] The environmental component cannot be overestimated either, and substance abuse in parents has multiple implications for the development of their children. These risks include the potentially devastating effects of in utero exposure to
substances, higher rates of mental health disorders in parents with consequent risks to children, exposure and availability of substances to adolescents in those families, and increased risk of abuse and neglect related to parental substance use.[45] The fact that a youth's family has such an important impact on the potential for substance abuse underscores the need for increased engagement of families while youth are in custody.

The Impact of the Justice System

An adolescent’s involvement in the justice system can also have a tremendous impact on his or her development. Under normal circumstances, increased risk taking, testing limits, and exploration of new experiences help the adolescent establish a new self-identity and create the basis for how he or she perceives the world. This phase of development requires a level of independence and freedom that adolescents in confinement facilities are rarely allowed.

In addition, there is much evidence that involvement in any confinement facility—juvenile or adult—can lead to negative labeling of youth (both self and other), increased negative views of authority and adults, and feelings of anger and hopelessness.[46] They are often removed for extended periods of time from their families, schools, and communities, resulting in impairment in those relationships that may have been troubled already. Confinement facilities necessitate close affiliation with others who may exhibit some of the same antisocial patterns and beliefs that contributed to a youth’s negative behaviors. It is well known that a healthy and supportive relationship with an adult can be an enormous factor of resilience in adolescents.[47] Unfortunately, so many of the interactions that staff members in confinement facilities have with youth are at best very structured and at times directive and even punitive. Adolescents watch closely and learn how to engage in their world, and their interactions with peers and staff in confinement facilities may help to create a powerful template for social behavior for the rest of their lives.

The influence of social interaction is even greater for youth who end up rotating in and out of confinement facilities, as they are removed further and further from their communities and potentially normative developmental influences. These adolescents are at increased risk of becoming chronic offenders who will likely transition into adult criminal behaviors later.[48] There are numerous critical junctures in development when appropriate interventions can push adolescents into a new trajectory. It is vitally important to understand adolescent development and to identify certain individual, social, educational, and familial components in that adolescent’s life to be able to intervene in a manner that will hopefully prevent deeper involvement in antisocial behaviors.

The theories behind the development of chronic offenders and the multiple interventions that may change the course of that development are beyond the scope of this chapter. There are many excellent resources to help develop a stronger understanding of the factors and issues that impact a youth’s development. The most important message for
this chapter is that adolescent development is an extremely complex biological and social process that is affected—positively and negatively—by many physical and social factors. Understanding the process of youth development and responding in reasonable and rational ways to behaviors that are often frustrating and dangerous can lay the groundwork for adolescents to have better tools and to make better choices.

**Theories of Delinquency**

It is extremely important for any individual working with youth to have at least a basic understanding of the different theories of delinquency. This knowledge will hopefully provide the foundation on which to build a more thoughtful and reasonable approach to this difficult work. It is vital to anticipate and understand the actions of youth in a confinement setting to prevent practices and reactions that may be detrimental to both youths and staff alike. The emotional intensity that adolescence entails, particularly for those in a stressful setting, can only be handled appropriately when adults are well prepared. Adults need the anchor of knowledge and understanding of what is happening and possible reasons for it. This section explains some of the very basic components of delinquency theory, but there are entire textbooks and college courses that can provide greater insight into this very important topic.

Delinquent and criminal behavior has generally been approached from three different but related perspectives: biological, psychological, and sociological. The biological approach maintains that the origins of crime and delinquency are found within the physiological and hereditary makeup of the individual. The psychological orientation holds that illegal behavior is a function of the internal psychological traits and processes of the individual. The sociological theory explores delinquency in relation to society, social structure, and group behavior.

No single theory completely explains juvenile delinquency or its effective treatment.[49] For this reason, the emphasis on one theory over another is frequently tied to the perspectives of politicians whose understandings of delinquency are more often a function of rhetoric and appeals to public sentiments about crime. Currently, there is considerable controversy about the conflicting goals of the juvenile justice system. These conflicts are manifested in the laws, which differ from state to state, that define adolescent culpability. However, the federal government has supported in some ways a holistic and interactive approach to delinquency theory based on sound research practices.

Materials from OJJDP strongly emphasize the interaction between individual, family, and community variables. There are also systematic efforts to discover those factors in a youth’s life that can be identified as causes or correlates of delinquency.[50] By identifying the individual variables that are linked to delinquent behavior, various theoretical approaches can be used to develop effective interventions. The OJJDP Comprehensive Strategy for delinquency prevention and intervention outlines strategies and principles...
relevant to all juvenile justice professionals, especially caregivers in facilities that confine youth.[51]

Human behavior is extremely complex and often unpredictable, and adolescent behavior takes this to the extreme. An understanding of criminal behavior in adolescence cannot be reduced to any simple theory or explanation, despite the ongoing efforts of society, media, and politicians to do so. Research consistently shows that a majority of adolescents commit some type of illegal offense, which one could argue places delinquency in the realm of normal adolescent behavior—the adolescent’s biological and social drive to test limits and seek out new experiences.[52]

Patterns of Lawbreaking

Indeed, the prevalence and incidence of offenses start to increase in late childhood, with a peak in late adolescence. These rates then drop off as adolescents move into adulthood. [53] This pattern has led to the classification of offenders into adolescence-limited offenders and life-course-persistent offenders—those who continue to engage in antisocial behaviors into adulthood and throughout their lives. An understanding of the theory of delinquency can aid in developing a better perspective about why certain adolescents seem to move past delinquent behaviors and others do not.

Risk and Protective Factors

A multitude of risk and protective factors have been identified through research and practice in the development of delinquent behavior. These factors include individual traits such as the age at which the behavior begins, level of intelligence, and certain difficulties in self-regulation (emotional regulation and impulse control).[54] The latter may be symptoms of an underlying mental health disorder, which can also increase a youth's risk of delinquent behavior.[55] These traits then very likely impact the youth's school performance, which is another significant factor in the development of delinquency. Parenting styles, family history of delinquency and attitudes towards delinquent behaviors, and potential abuse and neglect by parents and caregivers are also risk factors that may increase the likelihood of delinquent behavior. As discussed previously, a youth's peer group and social environment (including socio-economic status) have enormous influence on a youth's development and tendency to commit illegal acts.

Despite these various risk factors and theories that address them, the development of delinquent behavior in adolescence—similar to physical and emotional development—varies from one individual to another. Perhaps one of the most powerful and useful tools to understand delinquent behavior is the perspective of adolescents themselves. Arnold Goldstein has emphasized the importance of using the experiences of juvenile offenders as a valuable source of knowledge, which, when combined with theory and research, greatly improves staff understanding of youth.[56] This strategy stresses the importance of
talking with youth and listening to their life stories. There are a variety of resources and writings that relate the experiences of a youth in confinement facilities.

Gangs

Gangs are an avenue for many adolescents to become involved with crime and delinquency. The theories used to explain gangs include many developmental, biological, psychological, and sociological factors previously mentioned in this chapter. Gangs are included here because of their significant contribution to delinquent behavior. Research shows that a youth's involvement in a gang increases the risk of violence much more powerfully than his or her association with antisocial peers outside of a gang. An adolescent’s level of delinquency increases significantly with gang involvement and decreases if that adolescent leaves the gang, even if the youth was already engaged in delinquent behaviors. The risk of committing serious violent crime is also dramatically greater for youth in gangs.[57] For example, adolescents are 10 times more likely to commit homicide if they are in a gang.[58]

Despite the prevalence of gangs and their tremendous negative influence on adolescent development, there is little consensus even about the definition of a gang, including whether the involvement in criminal activity is necessary to be classified as a gang. Finding some agreement on the definition of gangs is a requirement for conducting further research and for developing more effective interventions to address the potentially devastating impact gangs can have in communities and the lives of the young people in them. Rather than subscribing to a specific definition, this chapter will use the OJJDP's assertion that a gang includes certain components: a self-formed and maintained group, united by mutual interests, that controls a particular territory, facility, or enterprise; uses symbols in communications; and is collectively involved in crime.[59]

Gang History in the U.S.

It appears that youth gangs appeared in the U.S. as early as 1783, with the end of the American Revolution. They likely developed and spread in New England in the early 1800s with the rise of the Industrial Revolution and its increasing urbanization. Gangs in Chicago and other large cities increased during the industrial era, and the accompanying immigration and population shifts that occurred during this time likely contributed to the growth of gangs during that era. It is also likely that gangs developed in the Southwest during the same period due to the social, cultural, and economic difficulties encountered by Mexican immigrants in the early 1800s. The evolution of gangs in the U.S. has not been consistent and has been characterized by certain periods of growth and decline.[60] The peak periods of the growth of gangs in the U.S. were the late 1800s, the 1920s, the 1960s and the 1990s.[61]
The youth gangs of the early 19th century were primarily formed around ethnic groups (Italian, Irish, Jewish).[62] Youth gangs still continue to be quite segregated ethnically, although there is a growing segment of gangs called “hybrid gangs” that are multi-ethnic and more loosely structured than gangs in the past. Currently, according to the FBI, 47% of gang members in the U.S. are Hispanic, 31% are Black, 13% are White, and 7% are Asian. It is estimated that 40% of gang members are under the age of 18 years, and less than 10% are females.[63]

Gangs continue to migrate from urban areas into smaller cities and suburban and even rural areas. They recruit new members and expand territories and make alliances (at times) with rival gangs to grow their profits from drug trade and other illegal activities. The technological advances of the past decade, as well as the availability of extremely powerful weapons, have allowed gangs even greater influence in conducting their criminal activities. There is evidence that gangs are encouraging adolescents to join the military to get military training that can benefit the gang once that youth returns to the community.[64]

Monetary rewards remain a very powerful motivation for gang involvement, as they have throughout gang history. Gangs have been intimately involved in the sale and distribution of drugs, which has served as an opportunity for many poor youth to attain wealth and a way forward in their lives. The activity of gangs has expanded dramatically into other forms of crime, include human trafficking, alien smuggling, weapons trafficking, prostitution, and white-collar crimes such as counterfeiting, identify theft, and mortgage fraud.[65]

According to the FBI (2011 National Gang Threat Assessment) gangs are expanding throughout many communities. They are becoming more violent and sophisticated in their criminal activity, and they are responsible for anywhere from 48-90% of violent crime in certain jurisdictions. It is estimated that there are about 1.4 million gang members in 33,000 gangs across the nation, which represents a 40% increase in gang membership since 2009. There has also been an increase in the number of youth in gangs, partly related to the increased incarceration rates of older members and more sophisticated recruitment of younger children in schools and communities.[66]

Gangs and Adolescence

Youth are especially attractive targets for recruitment into gangs for several reasons. They tend to be more vulnerable and susceptible to recruitment tactics, in large part due to the heightened importance of peer influence during adolescence. The fact that minors may also receive less harsh punishment in the criminal justice system also makes them more attractive candidates for committing crimes on behalf of their older gang members. The National Gang Intelligence Center (NGIC) reports that juvenile gangs are responsible for the majority of crime in many jurisdictions throughout states across the country.[67]
The powerful sense of identity and belonging that come with being in a gang can be a compelling inducement to a youth that has not found acceptance elsewhere. Gangs can be vehicles for social interaction, safety, money and material goods, status, and achievement. All of this occurs at a time when youth are developmentally breaking away from their families and looking to make new affiliations with peers and their community. The potential for involvement in exciting and risky activities can also be very attractive to youth.

There are also environmental, cultural, economic, and social factors that contribute to a youth's susceptibility to joining a gang. One theory emphasizes the “underclass” status of minority youth, which leaves them vulnerable to the attractions of opportunity and wealth that gangs can provide. Some youth may also seek personal safety and well being from their membership in a gang. Identification with certain cultures or ethnicities may also contribute to the attraction of gangs to adolescents.

**Risk Factors for Gang Membership**

Long-term and ongoing research into adolescent involvement in gangs has revealed a number of risk factors in several different important domains: community, family, school, peer group, and individual characteristics. The most important risk factor in the community domain is living in a neighborhood in which the social integration or attachment is low. Family components that increase a youth's risk for gang involvement include poverty, absence of or poor attachment to parents, and poor parental supervision. Risk factors related to school are low expectations for academic success (in youth and parents), low commitment to school, and poor attachment to teachers. As with development of delinquency, association—especially unsupervised association—with delinquent peers increases the risk of gang affiliation. Individual risk factors for gang involvement include low self-esteem, numerous negative life events, symptoms of depression, and access to or a favorable view of drug use. Adolescents who use drugs and are involved in delinquent behaviors (especially violent acts) are more likely to join gangs than youth who are less involved in delinquency or drugs. The greater the number of risk factors an adolescent has, the higher the risk of being involved in a gang.

**Gangs and Juvenile Facilities**

Unfortunately, gang activity is present not only on the streets but also in confinement facilities. In the OJJDP's 2010 Survey of Youth in Residential Placement (SYRP), almost a third of the youth population admitted to some gang affiliation. A majority of youth (60%) reported that there are gangs in the facilities in which they are confined. The presence of gangs in a confinement facility can be challenging and disruptive in many ways. Given the intensity of confinement and its sometimes crowded conditions, gang members often use their time in confinement to recruit new members. Some gangs (the Chicago Vice Lords, for example) have even formed inside confinement facilities.
Youth may feel especially vulnerable in a confinement setting and join a gang for protection.

Gangs contribute to the culture in confinement facilities in several other negative ways. The presence of gangs in a facility significantly increases the likelihood that a youth will be offered contraband. The percentage of youth living in units characterized by poor youth–staff relations are much higher in facilities with a gang presence. Youth are much more likely to report having been sprayed with pepper spray in units where gangs are present. For reasons likely related to recruitment and exposure, confinement in a juvenile correctional facility is one of the strongest predictors of adult prison gang membership.

Gangs are a primary concern for juvenile justice professionals because of the link they provide to drugs, criminal behaviors, and violence. The sale and distribution of illegal drugs is a big business, and corporate gangs are the organizations that run the business. Drugs are the product of the business. A system or mechanism is needed for the acquisition, distribution, and sale of the product. Sales territories must be established so that the salespersons can maximize distribution and sale of the product. Employees (sometimes referred to as “posse” or “crew”) are recruited for each of these purposes. The illegal nature of the product means that danger is involved in its acquisition, distribution, and sale. Because of the dangers involved, weapons become a tool of the trade as a means of protecting employees and investment. High profit margins make violence a very effective way of safeguarding the business, and ready cash buy the most sophisticated and powerful weapons money can buy.

Gang Violence

Goldstein identified some factors that increase the amount of violence associated with gangs. Violence is enhanced by the drug-related activities of the gang. Gang fighting is more about selling drugs and economic territories than it is about traditional turf battles for many gangs. Territory does still remain an issue because of increased mobility. A disproportionately high number of gang members carry guns, and these guns are significantly more lethal and easier to use than previous weapons.

Violence is also linked to the increased number of gang members and to older gang members. First, the group has a tendency to encourage violence through a depersonalized process. Similar to mob violence, in which frenzied behavior can turn quickly into violent behavior, gang violence gains quick support when individual responsibility becomes lost in the group. Second, the increased number of gang members in general means that there are probably more sociopaths involved in the decision-making. This increases the likelihood that violence will become a part of gang strategies and that it will receive support from gang members. When the peer value system that fulfills or satisfies the basic psychological
need for belonging also endorses violence, individuals will quickly accept the idea of violence.

Older gang members are more inclined to carry guns and to use violence and aggression as a way of maintaining their dominance in the gang. Furthermore, a common trait of gang members is the need for respect. Violence as a form of power, domination, and superiority satisfies many of the personal needs of those gang members who have low self-esteem. A childhood associated with abuse (physical, sexual, and emotional) and rejection produces anger and self-doubt. Violence is very effective for demonstrating strength, power, status, esteem, and authority within the gang.

A higher risk of violence for adolescents in gangs is not surprising, given their susceptibility to peer influence, the impaired ability to make rational decisions in stressful settings, and their still unformed capacity for higher cognitive function. These biological factors, combined with the external factors discussed above, make violence in gangs extremely likely for adolescents.

On a more positive note, some interventions and programs are making a positive impact on the issue of adolescents in gangs.[76] Intervention strategies address social skills, moral development, family preservation, school-based services, employment training, recreation, community involvement, and law enforcement. These strategies parallel the components of effective violence reduction programs for adolescents that focus on problem-solving skills, assistance to at-risk families, reduction of central nervous system trauma, controlled access to firearms, and enhanced racial and ethnic identity.[77]

**Family Engagement**

It is impossible to consider adolescent development outside the context of the family. Families provide youth with many critical values, perceptions, experiences, and beliefs. These factors have a dramatic effect on shaping the youth's behavior and on forming his or her character. Each individual goes through life with a set of beliefs and understanding about the world. The underlying perspective informs every decision and action that individual takes. Beliefs are rooted in early childhood experiences and in the family’s culture. They are almost always operating at an unconscious level, powerfully impacting behavior and decisions.

**Self-Worth and the Family**

Perhaps the most important trait a family can instill is a sense of self-worth. Self-worth is the internal picture a person has of himself or herself. The nature of this picture (whether positive or negative) is a crucial factor that influences a person’s internal life and social life.
Youth who have a positive sense of self-worth tend to possess a feeling of importance and believe that the world is a better place because they exist. They have faith in their own competence, are able to ask for help, and appreciate the worth of others. Youth with a positive self-worth are able to maintain trust and hope.

Youth who have a negative sense of self-worth feel that they have little value and often expect to be cheated, put down, and unappreciated. These youth often project these negative feelings onto others, meaning they assume that others perceive them in the same way—as worthless. They then respond and behave towards others as if this were true, and they easily interpret interactions with others in this context. As a defense, they may hide behind a wall of distrust or anger. The lack of appropriate relationships leads to apathy and indifference. These adolescents will then often treat others poorly in anticipation of being treated poorly themselves.

Social Connections and Beliefs

Individuals develop patterns and means of communication with others in a family context. Communication is simply how we make and share meaning with others. Early interactions with family members, especially parents or other caregivers, form the basis for learning to express needs and feelings with others. In the family, one adolescent may learn that he or she must yell to be heard by distracted or busy parents. Another may have a belief that his or her parents are not interested in what he or she has to say and therefore does not trust other adults to listen. These beliefs and patterns of communication will be repeated with the adults in the confinement facility and can create misunderstanding and confusion for staff members who are being yelled at or mistrusted for no apparent reason.

Adolescents are also linked through family relationships to people and institutions of the larger society. Beliefs about an individual’s relationship to others in the world are rooted in family culture and routines. It is within the family that beliefs about school and education, the government, law enforcement, religious institutions, and community involvement are established. Adolescents enter their worlds with an abundance of assumptions and expectations that were passed on through the experiences of their parents and extended families. For example, if a child grows up in a family in which the police are perceived as untrustworthy, it is extremely likely that the adolescent will adopt that perception and behave accordingly.

Removing an adolescent from his or her family does not mean that youth will change his or her basic beliefs about and behaviors toward adults and institutions. However, this separation is an excellent opportunity for adolescents to engage in relationships and experiences that may challenge their long-held beliefs and allow them to expand their ideas about the world and others. Workers in confinement facilities have a significant opportunity to model healthy communication, set appropriate limits, and positively encourage adolescents who may have never experienced those gifts before.
It has become more widely accepted in the field of juvenile justice that families of juvenile offenders should be as involved as possible in the care of youth in confinement facilities. The most obvious and compelling reason for this intervention is that most youth will return to their families and communities after their release from the facility, and facilities have an extraordinary opportunity to strengthen the family as a resource for the youth. Parenting skills training and family-intensive interventions work to empower the family to provide better guidance and supervision. This is best accomplished by involving the family from the beginning of the court or confinement process. The relative isolation of the confinement facility from the public, as well as the power of the court to compel parental involvement can create a safe place where interventions can be made to improve family–child relationships (often the origin of the youth’s problems).

There are immediate benefits that can be gained from involving families at every step of a youth’s course through confinement. Family involvement has been shown to reduce anxiety, reinforce treatment, and provide a more effective means of communicating needs for youth in confinement. Youth are often not able to accurately describe their medical and psychiatric histories, which can be vital to providing adequate medical and mental healthcare to them, and families can play a very important role in providing this information. Families are also a tremendous resource in helping to inform the juvenile justice system of the youth’s educational needs.

There are also several, more long-term programs that train and support families to help address problem behaviors in adolescents. These therapeutic programs have been proven to reduce behavioral difficulties in youth, improve school performance, and ultimately reduce recidivism. These interventions include Functional Family Therapy (FFT), Multisystemic Therapy (MST), and Multidimensional Family Therapy (MDFT). The focus of these interventions is to identify strengths and resources in families and to empower them to function in a healthier way. These programs underscore the need to foster change in the dysfunctional workings of many families of adolescents in confinement in an effort to avoid simply returning adolescents from confinement back into the same system that helped to create the initial problem. (See Ch. 10: Effective Programs and Services)

U.S. Supreme Court Rulings and Adolescent Development

In the past decade, there has been a dramatic shift in the way this country’s legal system views adolescents, driven in large part by very important and groundbreaking rulings by the U.S. Supreme Court. These rulings relied heavily on the research from developmental psychology, presented earlier in this chapter, which supports the concept that adolescent brains do not have the same decision-making capacity as adult brains and are more heavily influenced by psychosocial and emotional factors. As a result, the Supreme Court has recognized the diminished culpability of adolescents in several rulings.
In 2005, in *Roper v. Simmons*, the Court abolished the death penalty for adolescents under the age of 18. The Court based this decision on several factors: the relative immaturity of the adolescent brain in decision-making, the undue influence that outside forces (including peers) have on adolescent decisions, and the fact that character is still forming in adolescents. The Court reasoned that adolescents are not able to engage in the same cost-benefit analysis as adults and would therefore not necessarily be deterred from committing crimes by the death penalty.[81]

The Court progressed further in the legal protection of adolescents in *Graham v. Florida* in 2010. This decision held that adolescents cannot be sentenced to life without the possibility of parole for offenses other than homicide. The findings of this case were extended in 2012 in the case of *Miller v. Alabama*, which prohibited automatic mandatory sentences of life without the possibility of parole in youth under age 18. Adolescents who commit homicide can be given a sentence of life without the possibility of parole, but the Court required that several factors must be considered before such a sentence is given: an adolescent’s chronological age and its hallmark features of immaturity and inability to appreciate fully the risks and consequences of certain actions, and the family and home environment (from which a youth is presumably unable to remove himself or herself). The Court also put forth the concept that life in prison without the possibility of parole is especially damaging for youth, who will spend a much greater portion of their lives in incarceration compared to adults.[82]

Another case that highlights the growing legal understanding and acceptance of the diminished culpability of adolescents is *J.D.B v. North Carolina* in 2011. The Court’s ruling held that the age of an alleged offender must be considered when determining whether the youth can knowingly waive his or her *Miranda* rights. Again, the Court relied on the fact that the cognitive abilities of adolescents are less well developed than those of adults, and the perceptions of adolescents, due to their relative immaturity, may lead them to make poor decisions on their own behalf in the process of being detained and questioned. [83]

**Youth and Accountability**

These landmark cases offer an excellent summary of the major discoveries in adolescent development and how they impact a youth's culpability in delinquency. As discussed previously, youth differ from adults in many significant ways:

- Youth are not able to utilize newly developed cognitive skills as well as adults due to a sheer lack of experience and the decreased efficiency of their brains in processing and integrating information.
- Youth are more likely than either children or adults to make decisions and change behavior in response to influences from peers.
Youth have not fully developed the ability for future orientation and are less likely to consider the consequences of their actions; they tend to give more weight to immediate benefits than to the risks of possible consequences.

Youth have a decreased ability to control impulsive behavior due to the relative immaturity of the frontal lobes of their brains.

A crucial part of adolescent development is the formation of an identity and self-concept.

None of this is to argue that youth should not be held responsible for their choices; it is meant to underscore the importance of intervening in the lives of youth in a way that will allow them to develop identities that do not include delinquent or criminal behaviors.

The confinement of youth can be profoundly disruptive to their development. This period of development is crucial in the formation of identity and the acquisition of a sense of competency in life. Confinement often interrupts educational progress and important social and family relationships, which puts youth at even greater risk. Confinement places into close proximity young people who have demonstrated significant difficulties in making good choices and behaving appropriately, all at a time when they are most susceptible to peer influences.

On the other hand, involvement in the justice system also brings youth into close contact with adults who have great potential to change their lives in a very positive way. Many youths in confinement facilities come from families and communities that have little appropriate structure and few resources to allow the youth to obtain the skills he or she needs to move forward in life. Through interventions to strengthen parenting and families, confinement facilities can transform the lives of youth. Through teaching and modeling pro-social and supportive communication and behavior, staff in confinement facilities can help young people to develop a better understanding of their challenges and learn strategies to overcome them.

Impact of Trauma

Trauma can have an enormous impact on the development and behavior of youth. There is much evidence that youth involved in the justice system have a much higher rate of exposure to trauma than the general population. Exposure to trauma may lead to the development of Posttraumatic Stress Disorder (PTSD), which can have significant emotional and behavioral symptoms that may impact on the young person’s development and functioning. Statistics about the prevalence of exposure to trauma and rates of PTSD in confinement facilities are varied, largely due to differences in screening and research protocols. However, it is clear that trauma plays a significant role in the lives of many of the youth in the justice system.
It has been estimated that more than 90% of justice-involved youth have been exposed to some form of trauma.\[85\] The percentage of youth with a full diagnosis of PTSD ranges from one-third to one-half of all youth in confinement facilities, with rates of PTSD consistently higher in girls than boys. These rates are similar to those seen in mental health and substance abuse systems.\[86\] In addition, girls are more likely to report sexual and physical abuse than boys.\[87\] Data suggest that up to 75% of all youth in the justice system have experienced some form of severe victimization, which puts them at higher risk of developing significant mental health and medical problems.\[88\]

Exposure to trauma can be manifested in multiple cognitive, emotional, relational, and behavioral symptoms. In brain research on children who have been exposed to trauma, many of those symptoms have been shown to have biological correlates.\[89\] Trauma likely has an even more significant impact on the brains of children and adolescents (compared to adults, as they are still developing. It is important to understand the symptoms that arise from traumatic exposure in adolescents, as the behaviors and feelings they express may be misinterpreted and result in punishment rather than treatment. As a result, many youth in confinement facilities experience re-traumatization from harsh responses to their symptoms or from experiences of additional actual physical, emotional, or sexual abuse.

**Results of Trauma**

Youth with trauma exposure often display significant difficulties in their ability to regulate emotions and behavior, occasionally resulting in aggression or defiance. Research shows that youth exposed to trauma may have difficulty interpreting and expressing emotions; they may be very sensitive or withdrawn in response to negative emotions. In the context of a confinement facility, these responses place adolescents at risk for appearing uncooperative, oppositional, and aggressive. They may also develop significant internalizing symptoms of depression and anxiety.\[90\]

Exposure to trauma may also result in impaired memory and cognitive functioning in youth. There is also evidence showing that executive functioning may be significantly decreased. These deficits decrease the ability of youth to process and integrate information and make more reasonable decisions.\[91\] Trauma also often causes decreased self-esteem and distorts a youth's view of himself or herself in the world. Youth who have been exposed to trauma may also have many difficulties in interpersonal relationships including attachment, trust, developing appropriate boundaries, expectations in relationships, and potential for re-victimization.

**Biological Changes**

Many recent studies have revealed multiple and different biological changes in the brains and bodies of children exposed to trauma. There are differences in several different areas related to impulse control, cognitive processing and integration, memory, emotional expression and processing, and overall neural integrity. There are also neuroendocrine
changes that have been well documented, mostly including the levels of cortisol, which are a hormone related to stress and the body’s response to stress.[92]

One of the hallmark symptoms of PTSD is a persistent change in levels of awareness and reactivity. This may result in irritable, aggressive, self-destructive, or reckless behaviors in response to perceived threats from the environment. People with PTSD tend to be hypervigilant and may appear to others to overreact to changes and stressors. They usually have significantly distorted perceptions and beliefs about themselves and the world around them, and perceived threats to their safety can be reminders of the trauma that they experienced.

Identifying Trauma

It is absolutely vital that staff in confinement facilities identify those youth who have PTSD or who have trauma exposure to avoid interactions that may activate a posttraumatic response or even re-traumatize them.[93] This knowledge is also very helpful in understanding what may appear to be irrational behavior and responses to even simple requests. Hopefully, staff can interact with mental health providers in facilities to identify these youth and create treatment plans and behavioral interventions that are effective in addressing their specific needs.

One major tool to help understand and prevent sexual trauma in confinement facilities is the Prison Rape Elimination Act (PREA) of 2003.[94] (See Ch. 8: Management and Facility Administration: Staffing Adequacy). [9]

Conclusion

Adolescence is characterized by tremendous growth and change. It is the passage between childhood and adulthood during which there are remarkable transformations in a youth’s body and brain. These changes allow a youth to develop the skills and capabilities for becoming a competent and contributing adult in the world. Each phase of development entails certain risks; vulnerable youth can stray onto different and less hopeful paths by the many challenges they face. Although adolescent development usually occurs in a typical and expected manner; however, individual youth have their own strengths, difficulties, histories, and differences. Their uniqueness makes working with them both challenging and exciting.

This chapter has addressed numerous factors that contribute both positively and negatively to adolescent development. Each young person is a unique combination of biological, family, and social factors. Many of these characteristics are great strengths that will hopefully be identified and nurtured, by way of offering appropriate education, building stronger families, fostering healthy personal identity, and modeling appropriate social and interpersonal relationships in the face of sometimes powerful opposing forces.
It is a vital task of staff in confinement facilities to obtain a deeper understanding of adolescent development. Even typical youth behaviors such as pushing limits, taking risks, and exerting independence can be very hard to manage and contain. These behaviors will—and should, for the sake of development—continue in the context of confinement facilities. It is the role of the adults in these facilities to have and maintain the broader perspective to interpret behavior and guide the youth under their supervision and care in a positive direction.

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