Physical, Cognitive, and Psychosocial Development in Adolescent Years

Topics to be covered include:

* Theories of adolescence
* Physical development
* Cognitive development
* Risk behavior of adolescents

Introduction

Once children transition out of the middle childhood years, they transition into adolescence. Children go from being very interactive children that need and want guidance from their parents to very independent children wanting to “do their own thing.” Adolescents still go through many physical and cognitive developments during this phase but this development is balanced with the expectations that parents and society put on children during this age. The expectations have shifted from healthy development to wanting children to be employable, good citizens, critical thinkers, emotionally self-reflective, trustworthy, full of common sense and meaningful ideas. Many researchers feel our expectations are too high on adolescent children, which over time has led to an increasing number of at-risk behaviors by children at this age.

What is Adolescence?

Adolescence is a tougher stage of development to define than earlier stages. In infancy, early childhood and the middle childhood stage, most children transition from one stage to another around the same time period (or age). Adolescence does not work that way. There is a lot more variability that occurs based on individual children. Most approaches to studying adolescents consider precursors and outcomes of various transitions, events that define the transition period, and the sequence of events that occur within the transition period. Many researchers call these **transition-linked turning points**, which can be defined as events that define a transition period or the timing and sequence of events that occur within transition period. Two events that often characterize the movement into adolescence are **puberty**– a relatively abrupt and qualitatively different set of physical changes that normally occur at the beginning of teen years, and experiencing school events.

Both older and newer approaches to defining adolescence refer to different items such as when did the child become moody, when did he begin to worry about how he looks, when did he become interested in the opposite sex, etc. that occurs to normally characterize adolescence. Many people have tried to quantify when children transition into adolescence. In reality, the best way to determine that transition is with the onset of four hormones that affect sexuality. Unfortunately, that is hard to determine. The next few sections will explore some of the most referenced theories on adolescence. The three theories explored next are not necessarily the most accepted theories, but they are the theories most used to further research in this area.

Anna Freud

The first theory was proposed by Anna Freud (1951), who is Sigmund’s daughter. She focused her work on extending her father’s psychoanalytical theory as it applied to adolescence. If you recall from Lesson 1, the id satisfies the basic instincts for food, drink, comfort, etc. The ego is the central part of personality and keeps the id in line with reality. The superego is defined as a person’s conscious. She disagreed with her father about adolescence. He believed adolescence is a time for the restoration of the id and the ego (which had been reconciled during latency and disrupted by puberty).

* Latency Period

Anna Freud believed the latency period is when a child adopts the moral values and principles of people with whom they identify. She further believed that as a child approaches adolescence, childhood fears are replaced by internal feelings of guilt.

* Id and Puberty

She proposed that during the latency period the id (basic instincts) is controlled by the superego (conscious). But as puberty hits, the force of the id becomes greater and causes an imbalance between the id and superego. This is the cause for the internal feelings of guilt described earlier.

* Defense Strategies

These feelings of guilt cause repression, denial and anxiety. Some children cope by employing two defense strategies. The first is called asceticism, which occurs when a child becomes very religious as a way to cope with feelings of sexual, sinful drive and the second is called intellectualism, which is when a child turns to extremely intellectual and logical thinking about life rather than dealing with emotional guilt.

Stages of Adolescence

* State of Identity

Erikson (1968) believed that the main task of adolescence is to achieve a state of identity, which occurs when the various aspects of a child’s self-image are all in agreement with each other.

* Identity Crisis

Erikson also coined the phrase**identity crisis**, which are situations that cause us to make major life decisions about our identity. During adolescence, children’s development is considered to be in a “time out” as they explore a variety of identities. This exploration process and eventually, decision making process is necessary for a child to fall on the right identity. This healthy exploration will lead to stability later on.

* Repudiation

Erikson also described the term **repudiation**, which he says occurs when a person gives up all other possibilities and lands on one identity. There are some people that never land on that one identity and this leads to problems of commitment and stability later in life. These people that always feel the “grass is greener on the other side.”

**Stages Relative to Identity Formation**

Erikson’s theory was a springboard to research in the area of identity formation. Marcia (2002) described four different stages or statuses relative to identity formation.

**Status 1**

Identity Confusion, where no crisis (identity crisis as described earlier) has occurred and no commitment (to aspects of a particular identity) has been made.

**Status 2**

Identity Foreclosure, where no crisis has occurred, but some commitments have been made.

**Status 3**

Identity Moratorium is when several crises have occurred, but no commitments have been made.

**Status 4**

Identity Achievement is when numerous identity crises have occurred and been resolved and permanent commitments to an identity have been made.

**Women**

Gilligan, Lyons, & Hanmer (1990), who we discussed in Lesson 4 regarding gender differences, further described Marcia’s idea and said that women are generally less concerned about establishing an independent identity and are more likely to define their identity by their relationships.

John’s Hill Biopsychosocial Theory

Hill’s (1987) theory on adolescence states that there are three main factors that interact with one another during this period of development. Those factors include:

BIOLOGICAL FACTORS

Genital maturation, puberty and physical growth

PSYCHOLOGICAL FACTORS

Detachment, sexuality, intimacy, achievement motivation and behavior, and identity crisis and resolution

SOCIAL FACTORS

Gender identity, ethnicity and race

You can see that his theory is much more complicated than the other two because it integrates development in all three developmental domains that we have been exploring in each age span of development. The physical and social factors will be explored later in the lesson. We will explore the psychological factors in more detail now.

Hill described detachment as a shift from dependence to interdependence, or a growing autonomy. He argued that puberty brought on by abrupt physical changes and social changes forced an adolescent to develop a new self-concept about their sexuality. Intimacy then is closely linked to sexuality. He described the ability to be intimate with another as a progression from feelings of attraction for close friends all the way to sex. Achievement, motivation and behavior are linked to the standards of excellence that an adolescent has for himself or herself and feelings about how he or she “measures up.” Behavior differs from motivation because behavior can be influenced by other factors such as peer pressure.

Overall these three theories have provided a strong foundation for understanding the adolescent period of development.

## Physical Development in Adolescence

There are many physical changes that occur in both males and females during adolescence. Many of those changes are directly associated with the reproductive system. It is important for adolescents to understand their reproductive system and be knowledgeable about the changes that will be occurring. It is also important that adults support children from a psychological perspective as they adjust to these physical changes. As discussed earlier, one of the biggest questions is determining when puberty begins for children. What we do know is that the beginning of puberty varies drastically from child to child and within and across sexes (boys and girls). The other question is what the triggering event for puberty is. This is one question that is not easily answered or identified. Most researchers believe that a substantial shift in **hormonal balance**is the triggering mechanism for puberty. But, without conducting invasive medical tests, it is very hard to determine when that occurs in a child. The identification of puberty usually comes through the observation of physical changes. Some of the physical changes that occur for boys include enlarged genitals, pubic hair, voice change, facial hair, etc. For women the changes include breast development, pubic hair, menstruation, etc. On the other hand, once puberty does begin, the sequences of physical changes that occur during puberty are very stable from individual to individual, within the sex group. In other words, all girls progress through the same sequence and so do boys.

Researchers also describe a **secular trend** when it comes to puberty. A secular trend is defined as a phenomenon that adolescents are entering puberty sooner and growing taller and heavier than in earlier periods. As a matter of fact, the average age for the onset of puberty in the late eighteenth and early nineteenth century was 17 years of age but in the early twentieth century it was 14.5. As a result of these changes, children at younger ages have to psychologically deal with the physical changes earlier, often times at an age where they are less prepared to handle them. For example, the early development of breasts for girls often means that they must deal with the issues of sexualization that exist in our culture. These can be hard things to cope with during a fragile time of development. Early onset of puberty has been linked to lack of exercise, which leads to obesity that causes early release of hormones; more fat in the diet, which releases hormones; and the presence of hormonal chemicals in milk and meat. Family characteristics have been linked to delaying puberty especially in girls. The characteristics linked to delaying puberty included increased father involvement with the girl and more love and affection shown by both parents. Ultimately, most of the changes in puberty are driven by physical changes that occur during this time period but we cannot ignore the psychological and cultural effects.

## Body Image and Eating Disorders

Eating disorders are most common in adolescents and they are the third most common chronic condition among them. Gender, weight, puberty, and age all impact body image, which is an individual’s self-concept about his or her body. Negative body images can lead to feelings of loss of control and decreased self-esteem, which creates the potential for eating disorders.

One of the most common eating disorders is**anorexia nervosa,** which is a disorder of self-starvation. Ninety-five percent of all cases are either adolescent or young adult women. Symptoms include: refusal to maintain weight at a normal body weight, intense fear of gaining weight, denial of seriousness of changing physical condition, and absence of at least three consecutive menstrual cycles.

The second eating disorder is bulimia nervosa, which is a disorder is characterized by binge eating with awareness that the eating pattern is abnormal. Individuals with **bulimia nervosa** often have self-deprecating thoughts and fear not being able to stop. One difference with anorexia is that this can occur in women that are both over and underweight. The characteristics of bulimia are recurrent episodes of binge eating; a sense of lack of control over being able to stop eating; recurrent compensation of binge eating such as self-induced vomiting, and self-evaluations that are overly influenced by body shape and weight.

Overall, puberty is a time when the observable changes are physical but these physical changes impact adolescents emotionally as well. We have also discussed that there is a strong relationship between stress and emotional wellness.

## Cognitive Development in Adolescence

* COGNITIVE DEVELOPMENT

Because of the tremendous changes puberty causes both from a physical and psychological standpoint, cognitive development during this age span often gets overlooked. But, these changes are critical to long term wellness. At age 11, which is considered early adolescence, children enter into Piaget’s fourth stage of cognitive development. The stage, which is formal operational thinking, is based on the idea that children combine similar ideas and concepts into formal operations. For example, they may combine the ideas of voting, political parties, and the president to the bigger concept of democracy. Interestingly enough, democracy is one core value that Piaget references for most children at this age. They understand that a group of individuals can change the rules but once they are changed, everyone must now follow the new rules.

* CULTURE AND GENDER

Culture and gender also influence cognitive development during this stage. The key idea about development is that the endpoint or outcome of development may not be the same for all cultures or genders. For example, most early researchers on adolescence indicate that the endpoint for development is independence and separation (which is very much from a male dominated perspective). But, when considering what was discussed earlier in the lesson, if researchers were considering women when formulating these endpoints, they may change those endpoints to relationships with others and interdependence. This idea of different genders having different endpoints can be expanded when considering cultural differences that exist in America. We know from prior learning that context can influence development and lead to different outcomes for individuals. For example, adolescents from lower poverty homes tend to have different outcomes than children that come from middle or high socioeconomic homes. Of course, this is not true for all individuals, but the trends have been shown through years of study.

The Brain and Emotions

The brain initiates the complex emotions of self-awareness, morality, feeling of free will, and social emotions. Many believe that **spindle cell** neurons in the brain play a big part in the brain that creates emotions. These cells are responsible for sending socially relevant signals across the brain. Only human and ape brains have spindle cells and these cells are not prevalent at birth but rather begin to show up as children develop moral and social concepts. They accelerate growth when a child hits adolescence. Most neurons have cone- or star-shaped bodies with several branching projections, called dendrites that receive signals from neighboring cells. But spindle cell neurons are thin and elongated, with just one dendrite at each end. They are four times bigger than most other brain cells and are rare. These unusual cells seem to reside only in the Anterior Cingulate Cortex (ACC) and one other niche of the human brain, the Frontal Insula (FI). Brain-scanning studies have established that the ACC and FI are particularly active when people experience emotion. Both areas also seem to be important for "self-monitoring," such as noticing bodily sensations of pain and hunger or recognizing that one has made a mistake. In addition, the FI plays an even more specific role in generating social emotions such as empathy, trust, guilt, embarrassment, love and even a sense of humor.

Critical and Creative Thinking

Critical Thinking

In addition to brain development having an influence on emotional growth in adolescents, it is also a time when schools should be working to develop critical thinking in students. Critical thinking includes two types of thinking:

Creative Thinking

Creative thinking, on the other hand, has the potential to really grow through adolescent years. Creative thinking includes divergent thinking, fluency in thinking, flexibility and originality. It requires critical thinking, but critical thinking does not necessarily require creative thinking. Very creative thinkers have been referred to as being genius. Genius is described in two distinct ways. The first type of genius is one that has been determined to have a very high IQ. This is often referred to as precociousness, which means they have the ability to do what others can do but at a younger age. Think of the 5th grade student taking 8th grade math. The second description of genius is referred to as prodigiousness, where the child has the ability to do things most cannot do or at least do them much better than most can do. Think of Mozart or Einstein, who were often referred to as child protégées.

The key differences between the different types of thinking are that critical thinking aims at having a correct assessment of existing ideas and creative thinking is more about creating new inventions and the discovery of new ideas.

* CONVERGENT THINKING

Convergent thinking is thinking that is used to solve problems that have one solution (for example 48 \* 926). It doesn’t matter how many people solve this type of problem or the method they use, they will get the same answer.

* DIVERGENT THINKING

On the other hand, divergent thinking occurs when there are many possible answers or solutions. Examples of questions that require divergent thinking would be “how would schools be different if there were no rules” or “how would our lives be different if we lived in a dictatorship.” Divergent thinking requires much more creativity and individual opinion. To be a critical thinker, an individual needs to be able to both analyze problems and understand that multiple solutions are possible. In addition, the person must also be able to identify the implications of those solutions as well.

## Increased At-risk Behavior in Adolescents and Reasons Why

America has seen a substantial growth in high-risk behaviors both in adults and especially in adolescents. One theory about this increase is that those parents that were adolescents in the 60s and 70s became parents in the 90s and early 2000s. Their changing values about high-risk behavior have directly influenced the development of their children and so on. In addition, any researchers would argue that what we know as “family” has changed more than anything over the years. As a result, the role of adolescent has changed dramatically. In the 1840s, the family filled six functions, over the years, five of these roles have been replaced by professionals ((1) economic - replaced by workforce; (2) education - replaced by schools; (3) religious - replaced by churches; (4) recreation - replaced by commercial institutions; and (5) medical - replaced by doctors). The only role that remains is (6) providing affection. There are three main reasons cited for why families do not need each other as much as they used.

### GENDER ROLES

The first is that vocational instruction has changed, in that fathers would mentor boys and mothers would mentor girls. The changing gender roles and breakdown of the traditional family has changed that dynamic.

### ECONOMIC VALUE

The second change is the economic value of children. Children were expected to work with the family business, farm etc. because otherwise the family had to hire workers. This has obviously changed.

### SOCIAL STABILITY

The final change is in regards to social stability. In the past, families would rarely move from their hometown and many children once grown continued to stay in their hometown. As a result, parents knew the social structures of the community and were able to mentor their children. Again, because of the changing work patterns for parents, families move much more and often parents must drive many miles out of town for work, leaving them disconnected with the community.

## Divorce

Divorce is one factor that can greatly impact adolescent development. Estimates are that between one-third to one -half of all adolescents are affected by divorce today. Divorce obviously leads to a breakdown in the support system for adolescents. Munson and Sutton (2006) indicate that one of the factors that negatively impact these children is the change in economic status, which can impact social status. The adjustments required in divorce lead to increased at-risk behavior and even mental health issues such as depression.

The absence of one parent, usually the father can significantly impact the ability to provide effective and consistent discipline. It has been found the absence of the father can lead to increased aggressive behavior in boys and involvement in earlier sexual activity for girls. Overall, divorce can certainly lead to problems for teenagers but it is also noted that staying in a dysfunctional family situation will lead to its own set of problems.

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## Nurturing Parents

In Lesson 3 we discussed different types of parenting styles. These included:

### AUTHORITARIAN

Parents demand instant obedience (my way of the highway)

### AUTHORITATIVE

Parents respond to child’s needs and wishes believing in parent control but also having a willingness to explain reasons to children

### PERMISSIVE

Parents take a very tolerant, accepting view of children behavior and rarely place demands or discipline in children

#### Nurturing Parenting Style

One new approach to parenting that has been found to be effective with adolescents is called a **nurturing parenting style**, which is where the parents use indirect method (such as communication) and modeling to influence behavior. The parents communicate, teach and model. Children receiving this type of parenting often express that parental disappointment is the biggest influence for changing behavior. Nurturing parents positively influence behavior because they provide the children with an opportunity to practice decision-making, self-control and creative thinking.

## Consequences during Adolescent Sexuality

The newfound sexuality in adolescents can result in negative consequences for some.

* SEXUAL ABUSE

One problem is sexual abuse. Sexual abuse can occur with younger children and usually carries forward into adolescents. It often occurs with a family member or an adult the adolescent knows well and usually goes unreported. It also leads to long term problems such as running away, drugs and alcohol, and eating disorders. Over the last ten years, there has been much more of a focus on child sexual abuse with an increase in awareness and avenues for reporting. But it still remains a large problem that is most often unreported.

* SEXUALLY TRANSMITTED DISEASES

Increased sexual activity also leads to **sexually transmitted diseases (STDs)**, which is a class of infections transmitted through sexual behavior. The highest profile disease is the **human immunodefiency virus (HIV)**, which can lead to **acquired immune deficiency syndrome (AIDS)**. AIDS plagues certain groups of people more than others. These groups include black adults, homosexuals, and people involved in the sex industry. In 2000, estimates indicated that only one percent of all HIV cases occurred in adolescents. But that statistic has changed drastically over the last 12 years. The Center for Disease Control (CDC) stated that 50,000 new people acquire HIV annually and that one in four or 25 percent of them occur in ages 13 to 24 (CDC, 2012). Other sexually transmitted diseases that affect adolescents are:

### GONORRHEA

Well-known venereal infection accounting for between 1.5 and 2 million cases per yea

### CHLAMYDIA

Bacterial infection that may cause infertility; now the most common STI, there often are no symptoms

### GENITAL HERPES

Incurable sexually transmitted infection, with about 500,000 new cases every year

### SYPHILIS

Sexually transmitted infection that presents a great danger in that in its early stage there are no symptoms; if untreated, it can be fatal

### HEPATITIS B

Viral infection transmitted through sex or shared needles

## Illegal Behavior

There are many factors that lead to illegal behavior from adolescents including poor family situations, divorce, peer pressure, sexual abuse, gang involvement, etc. If there are problems in the complicated progression of childhood development, an adolescent may choose to turn to illegal behavior. One of the biggest concerns is smoking, drug and alcohol abuse. Cleveland and Wiebe (2003) has revealed that excessive alcohol use in teenage years can lead to later problems with brain functioning including damage to memory, learning abilities and language skills. Drugs and alcohol abuse can also lead to other types of criminal behavior such as theft, damage to property, etc. Teens that grow up in troubled families and low socioeconomic situations are more likely to end up being involved in gangs. These organizations often provide the adolescent with the type of structure and support they did not get from the family unit.

## Conclusion

Adolescence is another unique period of development for children. The start of adolescence and puberty is not as clear-cut as it is during earlier periods of development. Researchers have struggled to define adolescence because its’ complicated nature and generally describe it through common behaviors and experiences. Adolescents go through several aspects of physical and cognitive development during this stage and habits created often influence individual’s well into adult life.