

Adolescent Psychosocial, Social, and Cognitive Development

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Educational Gap

The cognitive and psychosocial development of adolescents is variable. Asynchrony among physical, cognitive, and psychosocial development may limit the adolescents' ability to perceive and judge risk effectively and may result in adolescent views that are incongruous with parents or guardians. Pediatricians can help adolescents to transition through this important developmental period while simultaneously providing parents with appropriate guidance and support.

Objectives After completing this article, readers should be able to:

1. Understand the stages of cognitive and psychosocial adolescent development.
2. Understand the role of the imaginary audience and the personal fable in adolescent development.
3. Recognize the implications of early pubertal timing.
4. Be able to communicate effectively with adolescents and address developmental concerns that may arise.

Cognitive Development

Adolescence marks the transition from childhood into adulthood. It is characterized by cognitive, psychosocial, and emotional development. Cognitive development is the progression of thinking from the way a child does to the way an adult does.

There are 3 main areas of cognitive development that occur during adolescence. First, adolescents develop more advanced reasoning skills, including the ability to explore a full range of possibilities inherent in a situation, think hypothetically (contrary-fact situations), and use a logical thought process.

Second, adolescents develop the ability to think abstractly. Adolescents move from being concrete thinkers, who think of things that they have direct contact with or knowledge about, to abstract thinkers, who can imagine things not seen or experienced. This allows adolescents to have the capacity to love, think about spirituality, and participate in more advanced mathematics. Youth who remain at the level of a concrete thinker focus largely on physically present or real objects in problem solving and, as a result, may present with difficulty or frustration with schoolwork as they transition throughout high school. Clinicians can help parents recognize this problem to help adolescents adjust to the educational pace.

Adolescents may also experience a personal fable as a result of being able to think more abstractly. The personal fable is built on the fact that if the imaginary audience (peers) is watching and thinking about the adolescent, then the adolescent must be special or different. For decades, this adolescent egocentrism was thought to contribute to the personal fable of invincibility (eg, other adolescents will get pregnant or get sexually transmitted infections) and risk-taking behavior.

Several studies have found that adolescents perceive more risk in certain areas than adults but that being aware of the risks fails to stop adolescents from participating in risk-taking behavior. Neuroimaging studies demonstrate that adolescents may experience greater emotional satisfaction with risk-taking behavior. This satisfaction can predispose adolescents to engage in behavior despite being aware of risks. In addition, concrete-thinking adolescents

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may be unable to understand the consequences of actions (eg, not taking medications), may be unable to link cause and effect in regard to health behavior (eg, smoking, overeating, alcohol, drugs, reckless driving, and early sex), and may not be prepared to avoid risk (eg, having condoms and avoiding riding with intoxicated drivers). Alternatively, youth who feel the personal fable is threatened can present with stress, depression, or multiple psychosomatic symptoms.

Third, the formal operational thinking characteristic of adolescence enables adolescents to think about thinking or meta-cognition. This characteristic allows youth to develop the capacity to think about what they are feeling and how others perceive them. This thought process, combined with rapid emotional and physical changes that occur during puberty, causes most youth to think that everyone is thinking not just about what they are thinking about but about the youth themselves (imaginary audience).

The imaginary audience can be detrimental to youth obtaining clinical care and services. For example, youth with chronic illnesses may hide or deny their illnesses for fear that the imaginary audience (peers) may learn about their condition or to prove to the audience that the condition does not exist. It is important to remember that the audience is very real to the adolescent. By being aware and sympathetic to the adolescent's concerns, as a clinician, you might be able to find solutions to address the health needs and social needs of the patient.

Adolescent Psychosocial Development

The psychosocial development that occurs during this period can be characterized as developmental tasks that emphasize development of autonomy, the establishment of identity, and future orientation.

The first area of adolescent development—establishment of autonomy—occurs when the adolescent strives to become emotionally and economically independent from parents. This struggle begins during early adolescence (ages 12-14 years), which is characterized by forming same-sex peer groups, with decreasing interest in family activities and parental advice. During this time, adolescents are concerned with how they appear to others. The peer group, which is typically same-sex, is often idealized and has a strong influence on the adolescent's development. As a result, adolescents may use clothing, hairstyles, language, and other accessories to fit in with their peers. Similarly, adolescents who do not identify with any peers may have significant psychological difficulties during this period. Adolescents

become less preoccupied with their bodily changes as they approach the end of puberty. The adolescent's attention shifts from being focused on self to adopting the codes and values of larger peer, parental, or adult groups. Clinicians who treat adolescents can help by discussing with families that this process of pubertal maturation will often require role readjustments among and between family members, which can sometimes result in increased stress and conflict.

During middle adolescence (ages 15-17 years), the peer group becomes a mixed-sex peer group and assumes a primary social role for the adolescent. Adolescents begin to have short, intense "love" relationships, while looking for the "ideal" partner. It is not uncommon for adolescents to have crushes on adults during this stage. Family conflict is likely to be at its peak. As adolescents' independent functioning increases, adolescents may examine their personal experiences, relate their experience to others, and develop a concern for others.

By late adolescence (ages 18-21 years), adolescents have developed a separate identity from parents. Simultaneously, adolescents may move away from their peer group and strive to achieve adult status. Adolescent conflict with parents may very well decline during this stage. As adolescents begin to enter more permanent relationships, they establish responsible behavior and their personal value system matures.

Pediatric health care professionals should be aware that most adolescents seek independence in a gradual fashion, and a sudden shift from parents can be a warning sign that the adolescent needs help in transitioning. In fact, some studies have demonstrated that 11-year-old girls spend 68% of their time with family and 22% with friends compared with 46% and 44%, respectively, in 18-year-old girls. Anticipatory guidance for parents about the emerging needs of independence will help to inform parents about this important developmental stage, provide guidance in promoting independence in a safe setting, and alleviate some of the problems experienced in the family. Development of clinic policies that promote an adolescent's need for privacy, confidentiality, and involvement in decision-making can aid in this transition.

The second task of adolescence is for youth to develop a sense of identity. Identity relates to one's sense of self. It can be divided into 2 areas: self-concept and self-esteem. Self-concept refers to an adolescent's perception of self—one's talents, goals, and life experiences. It can also relate to identity as part of ethnic, religious, and sexual identity groups. Self-esteem relates to how one evaluates self-worth.

In 1950, Erikson described the psychosocial crisis that was occurring during this stage as “identity vs. role confusion” (13-19 years). As adolescents transition into adults, they start to think about their roles in adulthood. Initially, it is common for adolescents to experience role confusion about their identity and describe mixed ideas and feelings about the specific ways in which they feel they fit into society. As a result, they may experiment with a range of behaviors and activities to sort out this identity. Adolescents may experiment with different peer groups or different styles of dress or behavior as a way of searching for their identity. Some degree of rebellion away from the family’s image is part of the adolescent’s search for identity.

Erikson described that an adolescent’s inability to settle on an identity or career path can result in identity crisis. Although this stage likely lasts for a short period, because of the current extension of adolescence and young adulthood, with more youth obtaining advanced degrees or vocational training, it may take more time for youth to establish their identity. Adolescents with a chronic illness may have a harder time developing a positive identity or self-image because of the impact of the illness on body image and the limited ability to achieve independence. Pediatric health care professionals can support adolescent identity development by encouraging parents to allow adolescents to have the space and time to independently make health care decisions and to participate in and explore a range of activities that can promote this development.

Inadequate development of self-identity can result in poor self-esteem in the adolescent. Poor self-image and esteem have been associated with poor adjustment (depression or suicide), school underachievement, substance use, and other risk-taking behaviors. Educating parents about the importance of praise and acceptance during this stage may be helpful to ensure that adolescents emerge from it with a secure identity.

The ability for future orientation is the third area of adolescent psychosocial development. This stage usually occurs during late adolescence (ages 18-21 years). Youth have gained the cognitive maturity that is necessary to develop realistic goals pertaining to future vocation or career, have developed a sense of self-identity, and are most likely refining their moral, religious, and sexual values. It is during this time that youth also expect to be treated as an adult. As autonomy increases, youth are given more responsibility. They are also provided with more access to alcohol and drugs.

Emotional and Social Development

Adolescence is also characterized by the development of emotional and social competence. Emotional competence relates to the ability to manage emotions, whereas social competence focuses on one’s ability to relate effectively with others. During this process, adolescents become more aware of being able to identify and label their own feelings and the feelings of others.

The rate of emotional and cognitive development does not parallel the rate of physical maturation. Dr Deborah Yurgelun-Todd, director of Neuropsychology and Cognitive Neuroimaging at McLean Hospital in Belmont, Massachusetts, compared magnetic resonance images of adults and teenagers to demonstrate how cognitive development does not occur simultaneously with emotional development in adolescents. Unlike in the adult brain, where both the limbic area of the brain (emotion center) and the prefrontal cortex (judgment and reasoning center) are enhanced when viewing images that expressed fear, in the adolescent brain, after seeing the same images, the limbic area is enhanced, with almost no activity in the prefrontal cortex. Such emotional-cognitive asynchrony can result in adolescents misinterpreting other’s feelings and emotions, whereas emotional-physical asynchrony can result in adolescents being treated as older than their emotional stage of development.

Early rapid pubertal development in girls and boys may significantly affect body image and social performance. Early maturing boys are often perceived as older and more responsible. In general, they perform better on team sports than boys who mature late and, as a result, may be more popular and seen as class leaders. However, timing and duration of puberty appear to matter. In a study by Ge et al, boys who were physically more developed in seventh grade, compared with their less physically developed peers, manifested more externalized hostile feelings and internalized distress symptoms in grades 8 through 10. Early maturation may predispose girls to social disadvantage. Early maturation has been identified as a risk factor for conduct problems, depression, early substance use, poor body image, pregnancy, and early sexual initiation.

Management or self-regulation of emotions is an important process in any adolescent. Research has found that an increased level of testosterone during puberty can result in swelling of the amygdala, the area of the brain critical in emotional regulation. Health care professionals can help adolescents recognize triggers and symptoms of out-of-control emotions and use reasoning skills to step back, examine emotions, and consider long-term consequences of behavior.

Implications for Practice

The pediatric health care professional is poised to educate adolescents and their parents about the psychosocial and developmental aspects of adolescence. Explaining that the adolescent's physical development may be asynchronous with the psychosocial, emotional, and cognitive development may help to avoid unrealistic expectations and smooth the process. It is helpful to provide adolescents with appropriate education about the social and emotional changes that occur during this timeframe. The goal of youth during this stage is to gain independence and establish a secure identity of who they are. Recommendation to parents and guardians to continue to provide parental or supervisory monitoring and model positive health behaviors and conflict resolution is critical for ensuring that teens remain safe while gradually becoming more independent.

There are different parental styles that have been demonstrated to be helpful. The American Academy of Pediatrics endorses the authoritative style where parents have a balanced approach with unconditional love, combined with clear boundaries and consistent discipline. This perspective is based on research demonstrating that adolescents who have an authoritative parent are less depressed, enter into risk-taking behaviors at later ages, and succeed better academically than parents who use other approaches. It is also important for parents to recognize that parental acceptance of adolescent separation and identity formation is necessary for healthy self-esteem and self-concept and enables the adolescent to return to the family later.

Clinicians can use the primary care visit to promote independence among adolescents. Starting during early adolescence, the parent and the adolescent should be seen together initially to assess the emotional and psychiatric health of adolescents and understand how family dynamics may contribute to symptoms experienced, identify not only sources of stress within families but predominant modes of coping with stress, and encourage parental involvement with the adolescent's school, extracurricular activities, and knowledge about their child's friends. These steps can protect against future delinquency and risk-taking behavior.

Spending time separately with the parent and the adolescent can help the adolescent independently be able to voice concerns about health information while simultaneously building confidence. Health care professionals can use the interview time to ask open-ended questions that allow the adolescent to consider a range of options, help the adolescent understand how emotions can

affect decision-making, and identify skill-building activities that promote self-esteem, independence, and self-management of medical conditions.

As adolescents' relationships evolve, they may become interested in dating, intimacy, and sex-related experimentation. Health care professionals should create a climate that is sensitive to personal issues, including sexual identity development and sexual orientation, so that youth feel comfortable discussing different types of sexual activity, fantasies, and attractions. Adolescents will also need appropriate health information about avoiding risk-taking behavior, such as drug use and unsafe sexual behavior, skills that enhance their ability to negotiate difficult situations with peers, and career guidance.

Clinicians' advice or explanation should be adapted to the cognitive level of the adolescent. Adolescence is also an appropriate time for clinicians to discuss career options for youth. Resources can include local or distant college, military service, or a specific program, such as Job Corps. Job Corps is a comprehensive residential, educational, and job-training program that has assisted approximately 2 million adolescents and young adults gain the vocational and social skills training necessary to obtain long-term jobs and further their education.

Resources are available for clinicians to help in guiding the adolescent through the critical stages of adolescent cognitive and psychosocial development. The American Academy of Pediatrics' *Bright Futures Guidelines for Health Supervision of Infants, Children, and Adolescents*, a developmentally organized, practical resource for clinicians, and the *Teen Years Explained*, a practical guide for adolescents, parents, and clinicians developed by the Center for Adolescent Health at Johns Hopkins School of Public Health, are 2 resources that can be used to help adolescents and their families successfully reach young adulthood.

Summary

- The goal of adolescence is to gain independence and establish a secure identity.
- Adolescents' cognitive development can result in abstract thinking that can predispose them to risk-taking behavior and a sense of invincibility.
- Clinicians can use the primary care visit to promote independence and prepare parents for the features experienced during adolescent development.
- Parental or supervisory monitoring is critical in ensuring that teens remain safe while gradually becoming more independent.

Suggested Reading

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PIR Quiz

This quiz is available online at <http://www.pedsinreview.aappublications.org>. NOTE: Learners can take *Pediatrics in Review* quizzes and claim credit online only. No paper answer form will be printed in the journal.

New Minimum Performance Level Requirements

Per the 2010 revision of the American Medical Association (AMA) Physician's Recognition Award (PRA) and credit system, a minimum performance level must be established on enduring material and journal-based CME activities that are certified for *AMA PRA Category 1 Credit™*. In order to successfully complete 2013 *Pediatrics in Review* articles for *AMA PRA Category 1 Credit™*, learners must demonstrate a minimum performance level of 60% or higher on this assessment, which measures achievement of the educational purpose and/or objectives of this activity.

In *Pediatrics in Review*, *AMA PRA Category 1 Credit™* may be claimed only if 60% or more of the questions are answered correctly. If you score less than 60% on the assessment, you will be given additional opportunities to answer questions until an overall 60% or greater score is achieved.

1. You see a girl for regular management of her asthma. She does well academically and participates in extracurricular activities in the community. You and her parents have encouraged her to take more responsibility for her asthma medication and treatments, but she has not been interested and has had several asthma exacerbations in the past year. She has several close girlfriends, none of whom have asthma, and she would rather not talk about her asthma management, saying that her friends don't have to talk about these things. She is not sexually active and is embarrassed when you meet with her privately and discuss sex. This girl is MOST likely
 - A. In early adolescence.
 - B. In late adolescence.
 - C. Manifesting evidence of abstract thinking.
 - D. Ready to graduate from high school.
 - E. Spending very little time with her family.
2. You have seen a boy since infancy and know his family well. At a recent sports participation well-child examination, he discusses his interest in spirituality and his plans to become more active in a religious group at his school. His parents are not active in a religious community, and he is thinking about how to discuss this with them without offending or upsetting them. He would like your advice on how to discuss this issue with his parents. This boy is MOST likely
 - A. Beginning to show signs of puberty.
 - B. In late adolescence.
 - C. In junior high school.
 - D. In early adolescence.
 - E. Manifesting evidence of concrete thinking.

3. A 16-year-old girl has acute lymphocytic leukemia, and she is now in remission. She has been a gymnast since age 9 years but has not been able to participate in gymnastic activities for the past year since her diagnosis. She has been attending school this semester but has been greatly affected by her hair loss and lack of participation in sports. You see her for a physical examination before she enrolls in a camp for teenagers who have cancer. On physical examination, she is well-nourished but has scalp alopecia. Her examination findings are otherwise normal. Her mother is reluctant to give the girl permission to attend the camp because of possible medical complications while she is away from home. You are MOST likely to respond that the girl's participation in the camp
- Is likely to slow her move toward vocational independence.
 - May cause her to become depressed because everyone at the camp has a history of cancer.
 - May help her develop a better self-image as a teenage cancer survivor.
 - Should be approved only if the camp is designed for girls with a history of acute lymphocytic leukemia.
 - Should be postponed until she is in remission for another year.
4. A 17-year-old boy is spending much of his time out of the home with friends. His parents are concerned that he may be experimenting with drugs. They are also concerned that he is acting depressed. They ask for your guidance on the best ways to help their son. You are MOST likely to state that
- Authoritative parenting style has better outcome for family relationships and teen behavior.
 - Providing clear guidance on their expectations for his behavior will cause stress for the boy.
 - They should avoid discussing the issue of drugs with their son.
 - They should send the boy to a community seminar with information on depression.
 - You recommend drug testing during the visit.
5. A 15-year-old girl was concerned that her teachers did not like her, but her mother met a few of her teachers in the community and each of them told her that they appreciate and like her daughter. The girl is doing well academically. She has been spending more time with friends and less time with her family, but her mother likes the girl's friends and has no concerns about the girl's behavior. On physical examination, she has a sexual maturity rating of V, and her mother states that she matured physically before her peers. The mother notes that her daughter seems to misinterpret emotions at times with family members, and she wonders if this is what is happening at school. The mother would like your opinion on why this might be occurring. You are MOST likely to respond that this emotional-cognitive pattern is seen typically
- In adolescents.
 - In children with depression.
 - In mild forms of autism.
 - In children with learning disabilities.
 - When children mature physically before their peers.

Parent Resources From the AAP at HealthyChildren.org

The reader is likely to find material relevant to this article to share with parents by visiting these links:

- <http://www.healthychildren.org/English/ages-stages/teen/Pages/Whats-Going-On-in-the-Teenage-Brain.aspx>
- <http://www.healthychildren.org/English/health-issues/conditions/adhd/Pages/Social-and-Emotional-Challenges-in-Adolescence.aspx>