“America created the teenager in its own image--brash, unfinished, ebullient, idealistic, crude, energetic, innocent, greedy, changing in all sorts of unsettling ways. A messy, sometimes loutish character who is nonetheless capable of performing heroically when necessary, the teenager embodies endless potential not yet hobbled by the defeats and compromises of life. The American teenager is the noble savage in blue jeans, the future in your face” [1].
This is quite a colorful characterization of teenagers making the physical, emotional, and social transition from the dependency of childhood to the independence of living in the adult world. How did we come to view teenagers in such a passionate and value-laden manner and, more importantly, why does it matter?

The concept of adolescence as a special population is a 20th century American phenomenon. Social-cultural changes in society and technological and scientific advances all helped focus attention on the role of youth as a special population. We now appreciate both the promise and the problems associated with today’s teenagers and strive to learn more about the many factors that influence health, both positively and negatively.

A myriad of factors shape the development of the modern teenager, and while this is not a comprehensive review of science literature, here I will attempt to clarify how and why individual characteristics develop within the rubric of a clearly defined youth culture that simultaneously glorifies the beauty, energy, and idealism of youth and condemns youth for the ills of society. Development is complex, encompassing many layers that are neither rigid nor stable, and care must be taken not to over-simplify the process. My discussion will be organized on Urie Bronfenbrenner’s ecological model of development that posits how socio-environmental systems influence development. This model is best understood as concentric layers of an onion, with the teen at the center and progressive systems surrounding this core.
Our genetic and biological makeup at birth determines not only our intellectual capacity, gender, race and ethnicity, and risk for certain physical and emotional disorders, but it also contributes to our personality. Thus, starting in early childhood we develop gender-based roles and behaviors, and exhibit variations in development based on gender. Race and ethnicity, independent of socioeconomic status, also have a major influence: “High scores on ethnic identity scales moderated youth’s ability to cope with daily stress. This finding suggests that a strong ethnic identity encourages emotional resiliency for youth even when the stress is independent of ethnic or racial status” [2].

Variations in IQ status, physical stature, temperament, timing of puberty, and genetic potential for chronic diseases, such as diabetes mellitus and obesity, vary greatly. Each child, then, is influenced perhaps in different ways by their proximal and distal environment and becomes, as least to some extent, a product of the interaction of their genetic and biological makeup and the environmental systems I will continue to discuss.

**Second Layer: The Microsystem**

The people who teens interact with on a regular basis comprise the social-environmental Microsystem. These people include parents, grandparents, friends, teachers, coaches, religious leaders and many others who influence attitudes and behaviors, provide sources of emotional support, serve as role models, and offer a glimpse of what life can be as an adult. Youth who experience a predominance of positive experiences from their Microsystem are likely to have more confidence, better self-esteem, make healthier decisions, and have better mental health.

But, a youth’s Microsystem can also work to undermine healthy development and result in feelings of psychological insecurity, a need to “prove oneself” through aggression and risk behaviors that may adversely affect themselves and others, and other developmental consequences that portend less success as an adult. We perhaps have all known a teen who was raised in a toxic family environment yet performed well academically and made a successful transition to adulthood. The term often applied to these teens is resilience, and we wonder what made a difference in these teens’ lives, but not in other teens’ lives. Perhaps it was an understanding teacher at school, a supportive coach, or a friend’s parents.

Although there are many influences that directly impact youth, here are four examples that will clarify the power of the Microsystem.
Parenting Style
A wealth of research over the past 30 years has clearly demonstrated that parenting style often thought of as “overall climate of parent child interactions” affects socio-emotional development [3-5]. As initially described by Baumrind, parenting varies on two major dimensions: Acceptance and warmth that relates to the extent to which parents foster individuality, self-regulation, and self-assertion by being responsive, supportive, and understanding of their teens’ special needs and demands; and, demandingness or behavioral control that refers to the control that parents exert on their teens to become integrated into the family through their supervision and discipline.

Research strongly indicates that compared to teens raised in authoritarian, permissive, or uninvolved households, teens raised in authoritative families (i.e., high level of acceptance plus high control) tend to exhibit better success academically, have stronger self-esteem, and have better emotional health. Environmental context is also important to consider. Thus, parents from lower socioeconomic communities exercise a greater degree of authoritarian behavior (low level of acceptance plus high control), for instance a “shorter lease”, on where and when their teens can visit the neighborhood, probably due to safety concerns. Although such parenting might have adverse consequences on teens raised in other environments, a high level of control seems to have no such consequence on teens raised in more dangerous neighborhoods.

Peer Influence
Risk taking behaviors such as smoking, drinking, drug usage, and unsafe sex increases between childhood and adolescence, and then diminishes as youth reach their third decade of life. More recent research has expanded our understanding of adolescent development to include the way peer influence interacts with neurodevelopment [6]. We now know that the brain’s limbic system, the region of the brain that promotes aggression and impulsivity, is relatively over-developed during the early and mid-adolescent years compared to the frontal lobe, the region that promotes reasoning. This part of the brain only becomes fully developed during the latter stages of adolescence, around the mid-twenties. Thus, early to mid-age teens (i.e., 12-16) exhibit greater social independence, experience more social –behavioral influences from the media and entertainment, and spend more time with their peers versus their family while, simultaneously, their limbic system is developing and exerting greater influence on how they process decision-making.

Social Connectedness
Resnick and associates, in a seminal study, found that being socially connected with family, school, and their faith (i.e., Microsystem) were powerful protective factors in helping youth navigate through the negative influences of adolescence [7]. Teens with stronger feelings of connectedness, especially with schools, are more likely than other youth to have better psychological adjustment and are less likely to engage in many risk behaviors, including early sexual initiation, alcohol, tobacco, and other drug use, and violence and gang involvement; and these effects are likely to last over time [8]. Efforts of schools to promote connectedness may be especially important for students who are marginalized or “feel different”, such as students with emotional or physical disabilities, students with chronic medical diseases, students who are lesbian, gay, bisexual, transgender; and students who are homeless [9].

Adverse Childhood Experiences
Lastly, pioneering work by Felitti and Andaers has shown the powerful impact that a constellation of adverse childhood experiences (ACEs) has not only on adolescent health and development, but also on adult emotional, physical, and behavioral health [10-11]. Events such as childhood abuse (physical, sexual, and emotional) and neglect, and household events (domestic violence, divorce, parental substance abuse, and parental mental illness) affects a wide range of health problems including adult smoking, drug abuse, depression, suicide attempts, heart disease, and obesity. The more ACEs in a child’s early environment, the greater the risk for morbidity and premature mortality throughout life. The association is found across socioeconomic strata [12].
School Policies
School policies affect teens in many ways. One example is when schools adopt a policy on zero tolerance. Schools use this policy to suspend or expel youth for actions (i.e., fighting, carrying a weapon) that officials believe distracts from the school learning environment. A growing number of advocates view this policy as not only ineffective in ensuring a safe school, but also believe it may promote the “school to prison pipeline”. This may be especially concerning for academically marginal students and ethnic minorities for whom being out of school exposes them to negative social influences [13].

Employment and Workplace
Workplace schedules influence a teen’s home environment through the availability of parents to monitor, supervise, and provide guidance. The availability and quality of employment opportunities influences the economic stability of both parents and teens. Layoffs and relocations also can have a major influence on an adolescent’s emotional state.

Mass and Social Media
Much has been written about both the positive and negative effects of mass media (including television, video games, film, and the internet) on the psychological development of youth [14]. Messaging serves to change or reinforce attitudes and beliefs that influence behavior. Mass and social media can teach youth acceptable social norms and behaviors, expand perspectives on events outside of the local community, and promote health beliefs. Mass and social media, however, can also normalize aggressive behavior; glorify sexual behavior, drinking and smoking; promote sedentary behavior; provide an anonymous vehicle for cyberbullying; and influence emotional depression for youth who, through social media, view their life less favorably compared to others (i.e., Facebook depression).

"Safe neighborhoods with ample community resources provide assets that promote positive adolescent development."
Fourth Layer: The Macrosystem

The Macrosystem is the outermost layer in the child’s environment and is comprised of cultural values, customs, and laws that surround the teen. The effects of the principles defined by the Macrosystem have a cascading influence throughout the interactions of all other layers. Examples of this system include:

Ethnic and racial health beliefs
Think here of the lasting effect of the Tuskegee Syphilis study on the trust that African Americans have with our medical system, or the role that folk medicine plays in some ethnic minorities.

Unexpected environmental changes
Terrorist attacks, natural disasters, and the 2008 economic depression. Each of these events has ripple effects throughout the entire socio-environmental model and may impact teens directly through feelings of vulnerability and through family and community life.

I ideological political positions on national issues such as gun control, abortion, gay rights
For example, consider the 2015 Supreme Court decision legalizing gay marriage. Same-sex marriage may affect teens by stabilizing family life and by providing legal rights that were previously denied such as the right to health insurance and to social security and other federal government benefits in cases where the non-biological parent dies.
Conclusion: Teenagers in a Life-Span Perspective

The period of adolescence plays a central role when viewing development and health from a life-span perspective. Preconceptual and prenatal factors influence early child development that, along with the bio-social-ecological determinants discussed previously, influence adolescent development, behavior, and health. In turn, the emotional, psychological, mental, and physical health of youth play a determinative role in the health and developmental trajectory of adults. This critical role of adolescence in human development is well described by G Stanley Hall, a noted psychologist (1846-1924) of the early 1900s [16]. Hall, known as the father of adolescent psychology, is credited with helping shape educational, psychological, and cultural themes that define today’s policies and beliefs of the American teenager.

He held that while children were primitive beings and adults were set in their beliefs, adolescence was a period of emerging emotional, cognitive and moral transition and, therefore, ripe for intervention. Hall promoted compulsory education as the strategy to mold teenagers to hold higher moral values, thus transforming the values of the society as a whole. Although over the past several decades there has been increasing emphasis on the development of the very young (i.e., Head Start, early preschool programs), those in public health are keenly aware of the value of improving the developmental well-being of teenagers as a key step in promoting health over the lifespan.

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