

Analyzing the Intricacies of Developmental Patterns in Adolescents- A Systematic Review of the Existing Literature

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Abstract

“Adolescence” is a dynamically evolving theoretical construct informed through physiologic, psychosocial, temporal, and cultural lenses. This critical developmental period is conventionally understood as the years between the onset of puberty and the establishment of social independence (Steinberg, 2014). The most commonly used chronologic definition of adolescence includes the ages of 10-18 but may incorporate a span of 9 to 26 years depending on the source (APA, 2002). Inconsistencies in the inclusion criteria of “adolescence”, and adolescent sub-stages, can create confusion in the construction of adolescent research and adolescent program planning. Although an appreciation for developmental variability is imperative when discussing adolescence, there is an equal necessity for conceptual clarity. This article explores the developmental foundation for definitions of adolescence, identifies commonly used chronologic parameters, and posits a theoretically consistent chronology of adolescence and adolescent sub-stages for use in research and program development.

Keywords: Developmental Pattern, Adolescence, Psychosocial Impact, Chronologic Development.

I. The Foundation of Risk, Resilience, and Opportunity

Adolescence is a distinct phase of the developmental life cycle in humans and other animal species (Elliot & Feldman, 1990; Spear 2000). Among humans, adolescence is a complex, multi-system transitional process involving progression from the immaturity and social dependency of childhood into adult life with the goal and expectation of fulfilled developmental potential, personal agency, and social accountability (Greenfield, Keller, Fuligni, & Maynard, 2003; Graber & Brookes-Gunn, 1996; Modell & Goodman, 1990; Steinberg, 2002). Conceptualized by G. Stanley Hall, the founder of adolescent science, as a process of physical and psychosocial “rebirth”, adolescence is the synthesis of profound

corporal development with the evolution of a matured existential essence and integration of the nascent self within the family, community, and culture (Arnett, 2002; Berzonsky, 2000; Blos, 1979). Developmental transitions occurring during adolescence require reciprocal reorganization of the individual and the context influencing cognition, emotion, behavior, and relationships (Graber & Brooks-Gunn, 1996; Lerner & Castellino, 2002). This interdependent, individual, and contextual evolution presents multi-system challenges constituting the basis of risk, resiliency, and opportunity in adolescence (Geidd, 2015; Graber, Brooks-Gunn, & Petersen, 1996; Steinberg, 2014).

2. Culture and Adolescence

This article explores the definition of adolescence situated within a broad consideration of pluralistic contemporary western culture. Adolescents are “simultaneously biological and cultural beings” (Miller, 2002, p.151) with culture, defined as a dynamic system of shared activities and meanings (Greenfield et al., 2003; Swanson, et al., 2003), and biology mutually informing the process of development (Greenfield, 2002; Lerner, 1992). The cultural meaning ascribed to physical maturation and the process of social redefinition during adolescence may vary significantly throughout cultural, social, and historical contexts (Steinberg, 2002; Swanson et al., 2003). For example, the achievement of “autonomy”, generally considered an essential normative psychosocial task of adolescence, might be operationalized differently between collectivist and individualist cultures (Zimmer-Gembeck & Collins, 2003). In both western society and globally, adolescent achievement of independence and self-sufficiency is not universally prioritized over conformity to familial and cultural identity, expectations, and obligations (APA, 2002; Zimmer-Gembeck & Collins, 2003).

Although an array of cultures is subsumed within the geographic construct of contemporary western society, fostering the potential for the discrepancy in the understanding of adolescence, significant international and cross-cultural commonalities do exist to inform the meaning and chronology of adolescence (Arnett & Galambos, 2003). The age of first marriage, closely linked to childbirth statistics, has risen globally, with substantially fewer percentages of women marrying before age 20 (Blum & Nelson-Mmari, 2004; Steinberg, 2014; United Nations, 2009). Also, formal education has been increasing across continents with a narrowing gender discrepancy between educational opportunities for girls and boys (Blum & Nelson-Mmari, 2004). Among developed nations globally, women now consistently outnumber men in post-secondary education, a significant trend reversal since the 1970s (National Bureau of Economic Research, 2015;

YaleGlobal online, 2014). This combination of increasingly delayed marriage and childbirth, and prolonged education fosters a suspension of adult roles and responsibilities, or “psychosocial moratorium” as described by Margaret Mead (1961) and Eric Erikson (1968), and therefore an international trend toward the existence and prolongation of “adolescence”.

3. Psychosocial Theories of Adolescent Development

The definition of adolescence and adolescent sub-stages are founded on a theoretical understanding of adolescent development. Classic theories of adolescent development extend from a range of philosophical perspectives including the biosocial, organismic, and contextual (See Figure 1). Hall’s (1904) biosocial conception of adolescent development was based heavily on Darwin’s (1859,1979) theories of phylogenetic evolution. This perspective assumes that development is controlled by genetically pre-determined physiologic changes mimicking the stages of human evolution, termed recapitulation (Hall, 1904; Muuss, 1996).

Darwin’s work also influenced Freud’s (1962) intra-psychic theories of psychosocial development emphasizing energy, drive, and instincts, propelled by biological forces (Muuss, 1996). However, Freud is considered philosophically organismic because of his recognition of contextual influences on biological imperatives (Steinberg, 2002). Organismic theories emphasize teleological pre-determined epigenesis (stage theories) secondarily influenced by contextual forces (Ford & Lerner, 1992; Steinberg, 2002). NeoFreudians, Anna Freud and Peter Blos expanded Freud’s organismic theories into the realm of adolescent development.

Erikson’s (1968) construction of child development theories around psychological conflicts reflects his Freudian psychoanalytic training; however, Erikson emphasized the social aspects of child development rather than the internal psychic. Although Piaget’s

conceptualization of “egocentrism” in childhood psychology is compatible with Freudian theory, Piaget focused on the conflict-free, rational aspect of development and emphasized the growth of cognition (Piaget & Inhelder, 2000). Kohlberg’s (1980) theory of moral development in adolescence relies heavily on a Piagetian understanding of conceptual-cognitive development, and James Fowler credited Kohlberg as providing the most profound influence on his work on faith development (Fowler, & Dell, 2004). Kohlberg (1980) also inspired Selman’s (1980) work on Social Cognition.

Contextual Theories of development play a significant role in defining adolescence. The major contextual theorists contributing significantly to the understanding of adolescent development include Margaret Mead, Urie Bronfenbrenner, and Richard Lerner. Mead (1961, 2001) is renowned for her anthropological work on the cultural context of adolescent development published in *Coming of Age in Samoa*. Bronfenbrenner (1979) built upon Kurt Lewin’s Field Theory to construct the Ecological Theory of human development emphasizing the interplay between person and

environment and the importance of contextually situated developmental research. Within the same philosophical movement toward the contextual understanding of development, Richard Lerner combined the conceptualizations of comparative psychology, the life span view of human development, Reigel’s dialectic metamodel of development, and systems theory to construct his theory of Developmental Contextualism (Ford & Lerner, 1992). Lerner’s developmental theory emphasizes probabilistic ontogeny, as opposed to predetermined epigenesis. His theory appreciates the potential for human plasticity and recognizes the reciprocal interdependence of biological and contextual forces (Lerner & Castellino, 2002). Although generally appearing in the educational literature and not frequently cited in discussions of adolescent development, it is important to note the contributions of the social constructionists, particularly Lev Vygotsky (1978). Vygotsky’s theories emphasize the fundamental role of social interaction in the development of cognition through the construction of personal meaning. Vygotsky argues that social learning precedes and directly influences cognitive development.

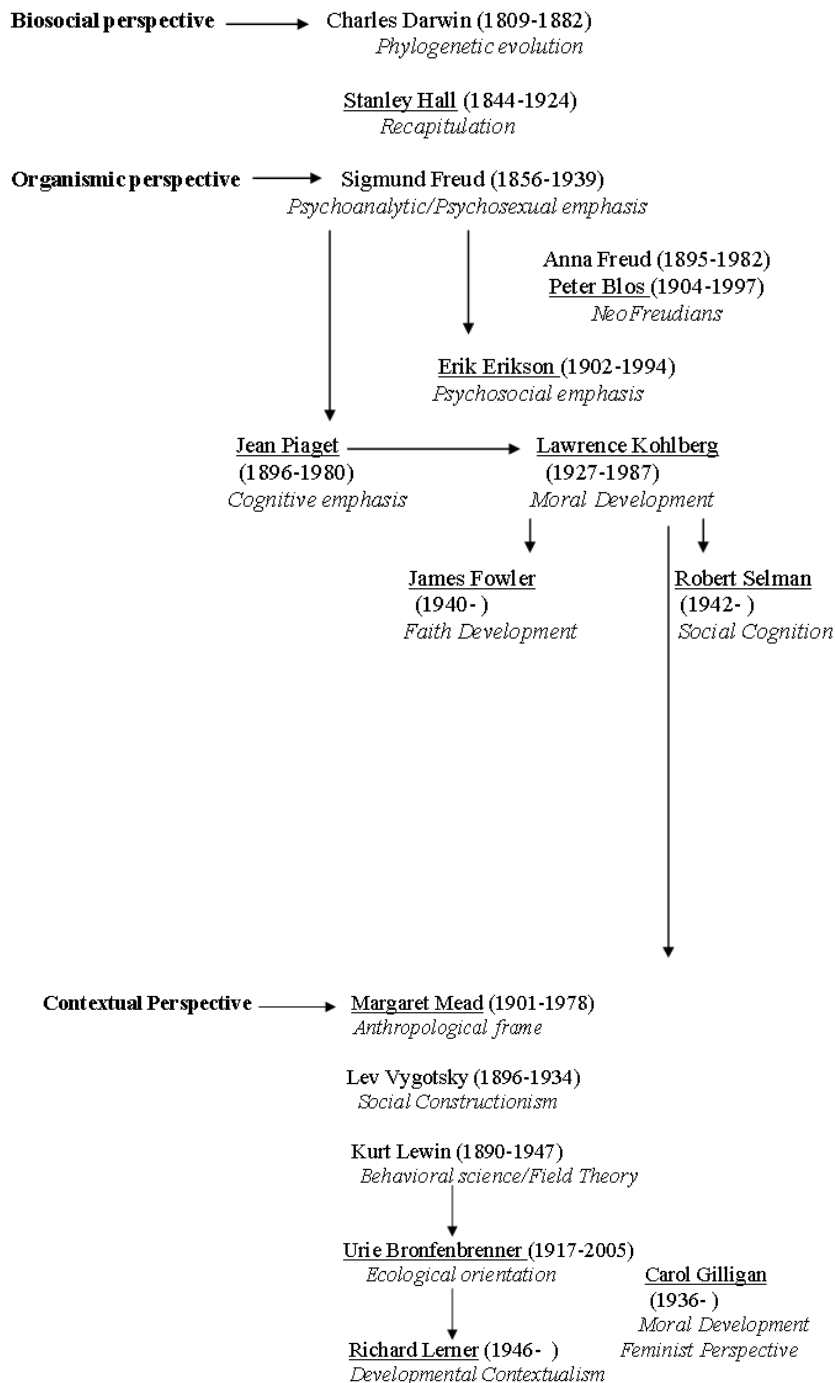


Figure 1. Classic Theoretical Perspectives of Adolescent Development

Many of the classic theoretical foundations for developmental science have been extensively critiqued for the use of potentially gender-biased, realist, and reductionist assumptions (Gilligan, 1982; Jaffee & Hyde, 2000; Walker, 2004). More contemporary theories emphasize contextually situated continuity and plasticity in human development rather than rigidly structured stage theories (APA, 2002). However, the recent research in adolescent

development has been primarily focused on “mini-theories” and applied developmental science (APA, 2002; Steinberg & Morris, 2001) and despite acknowledged limitations, the older comprehensive models of development remain useful when employed through a post-modern perspective. A post-modern approach to developmental theorizing in adolescence sheds new light on the classic theories through validation of differences in

subjectivity, gender and sexuality, race and class, and temporal and spatial locations (Huyssen, 1984).

4. Physical Development in Adolescence

The most readily recognized hallmark of adolescence is the pubertal metamorphosis orchestrating the visible transformation of a “child” into an “adult”. Adolescent physical growth and sexual maturation begin and unfold with significant variability influenced by a variety of factors including gender, race, body mass, environmental influences, and overall health status (APA, 2002; Stienberg, 2014; Styne, 2004). The accepted mean age for the onset of puberty is simplified to 11 years, with boys beginning between the ages of 9 and 13.5 years, and girls between 7 and 13 years (APA, 2002; Grumbach & Styne, 1998). The characteristic skeletal growth spurt generally occurs in females between the ages of 10-12 and 12-14 in males, terminating in adult stature between the ages of 17-19 in females and by the age of 20 in males (APA, 2002). A trend toward earlier transitions into puberty has been documented particularly among youth with a higher proportion of body fat and increased exposure to natural and artificial light (Steinberg, 2014). Delayed puberty in boys is defined as the absence of testicular enlargement by age 14 and in girls the absence of breast development by age 13 (Dynamed, 2015; Rosenthal et al., 2002).

5. Adolescent Brain Development

Current research, including the use of functional magnetic resonance imaging (fMRI) technology, has contributed significantly to new understandings of adolescent brain development (Geidd, 2015; Stienberg, 2014). Fueled in part by the surge of sex hormones, the adolescent brain demonstrates unique plasticity through the strengthening of frequently used neuronal connections, the pruning of unused connections, and increased sensitivity to environmental influences (Geidd,

2015; Steinberg, 2014). “MRI studies show that the teenage brain is not an old child brain or a half-baked adult brain; it is a unique entity characterized by changeability and an increase in networking among brain regions” (Geidd, 2015, p. 33).

Extensive brain maturation occurs in three neuronal systems during adolescence: the reward system, the relationship system, and the regulatory system (Steinberg, 2014). Research has specifically highlighted the lack of synchronicity between the pubertal acceleration of the limbic system (the reward system), and the later maturation of the pre-frontal cortex (the regulatory system) (Geidd, 2015). Studies reveal that changes in neuronal connectivity continue to develop throughout the teens and 20s, potentially influencing reasoning capacity, affective states, and impulse control (Beckman, 2004; Geidd, 2015; Spear, 2000).

6. Chronologic Definitions of Adolescence

According to the Oxford English Dictionary, the original 1482 definition of adolescence referred to a period between childhood and adulthood that extended between ages 14 and 25 years in males and 12 and 21 years in females (Murray et al., 1989). Hall’s (1904) original conception of adolescence included both genders between the ages of 14 and 24 years. More recent definitions of adolescence vary depending on the source without much discussion of the reasoning behind the proposed chronology. In 1995 the Society for Adolescent Medicine (SAM) published a position paper on adolescent health research defining adolescence as the ages 10 to 25. The American Academy of Pediatrics (AAP) “Bright Futures” recommendations for pediatric preventive services identifies adolescence as the ages of 11-21 years (2015). The U.S. Department of Health and Human Services (USDHHS) “Adolescent and Young Adult Health Program” webpage defines adolescents as ages 10-19 and young adults as ages 20-24 (2015). The Center for Disease Control and Prevention’s Youth Risk Behavior

Surveillance System is constructed using a high school sample, grades 9-12, rather than age (CDC, 2015). The U.S. Census Bureau uses different constructs for the adolescent population dependent on the specific topic including 12-17 and 15-19 (U.S. Census Bureau, 2015). The World Health Organization (WHO) defines “adolescents” as individuals between 10 and 19 years, “youth” between 15 and 24 years, and “young people” between 10 and 24 years (Blum & Nelson-Nmari, 2004; WHO, 2015) (See Table 1).

6.1. Adolescent Sub-stages

Obviously, a tremendous developmental discrepancy exists between the ages of 10 through 25 years and therefore “adolescence” is generally divided into sub-stages. Theorists and clinicians have historically differed in their chronologic definition of these sub-stages.

Nienstein et al. (2009), a frequently consulted clinical authority, designates early adolescence as approximately 10 to 13 years, middle adolescence as approximately 14 to 16 years, and late adolescence as approximately 17 to 21 years. Steinberg (2002) previously identified adolescent sub-stages as early (10 to 13 years), middle (14 to 18 years), and late (19 to 22 years), however more recent publications (2014) include youth up to 25 within the construct of adolescence. Elliott and Feldman (1990) described early adolescence as 10 to 14 years, middle adolescence as 15 to 17 years, and late adolescence as 18 years to the mid-20s. Other prominent researchers separate youth into early adolescence (10 to 14 years), late adolescence (15 to 19 years), and young adulthood (20 to 24 years) (Irwin, Burg, & Cart, 2002). Finally, Arnett (2000) proposed removing the ages of 18 to 25 years from “adolescence” altogether in favor of a new distinct phase of human development, the “Emergent Adult.” Other nomenclature used to describe people in their early 20s include “youthhood,” “thresholds,” “twixters” and “adulescents” (Grossman, 2005). “Transitional age youth (TAY)” is a descriptor generally associated with disconnected adolescents and young adults at risk for poor developmental

outcomes, particularly those aging out of state services (Mandarino, 2014; TAYSF, 2014). There is currently no accepted chronologic definition for transitional age youth; age ranges can extend from 14-to 29 years; however, a frequently used designation includes the ages of 16-24 years (AAPD, n.d.; TAYSF, 2014).

Table 1. *Chronologic Constructs of Adolescence*

| Organization/Theorist | Definition of Adolescence (years) |
|---|--|
| Historical Definition (1482) | Males: 14-25 Females: 12-21 |
| G. Stanley Hall (1904) | 14-24 |
| Society for Adolescent Medicine Position Statement (1995) | 10-25 |
| American Academy of Pediatrics (2014) | 11-21 |
| USDHSS (2015) | Adolescents 10-19 Young Adults 10-24 |
| Center for Disease Control and Prevention: YRBSS | 9 th – 12 th grade |
| U.S. Census Bureau (2015) | 12 to 17 or 15 to 19 |
| World Health Organization (2004) | Adolescents: 10 to 19 Youth: 15 to 24 Young People: 10 to 24 |

7. Proposed Chronological Framework of Adolescence

This article proposes an operational definition of “adolescence” based on developmental science that includes the ages of 11 to 25 years. In this definition, “early adolescence” and “young adulthood” are sub-stages of this critical transitional period. The proposed chronology is not presented as the exclusively “correct” definition of adolescence; however, it is one possible construction supported by developmental theory. An overview of the developmental processes occurring during each stage is presented to inform a probabilistic understanding of the transitional experience of adolescence and young adulthood (See Table 2).

Table 2. *Summary of the Stages of Adolescence and Their Developmental Processes (*Ages vary by State)*

| DEVELOPMENTAL PROCESS | EARLY ADOLESCENCE (11 to 13 Years) | ADOLESCENCE (14 to 17 Years) | YOUNG ADULTHOOD (18 to 25 Years) |
|-----------------------|--|---|--|
| Physical | Initiation of puberty | Continued physical growth and development | Termination of physical growth and development |
| Cognitive | Developing-frontal cortex; Concrete thought to increase formal operations and abstraction | Continued pre-frontal cortex development, Increasing formal operations and abstraction | Completed brain development; Increased formal operations and abstract reasoning |
| Emotional | Increased emotional reusability; Immature self-regulatory system | Increasing emotional range; Developing self-regulatory system | Increased emotional stability; Mature self-regulatory system |
| Social | Primarily unisex peer relationships, increasing peer involvement; Escalating parental conflict (<i>Industry vs. Inferiority</i>) | Heterosexual peer groups and dyadic romantic relationships; Transformational parental relationship (<i>Identity vs. role confusion</i>) | Less peer group interaction increased the development of intimate relationships. Reduced parental conflict (<i>Intimacy vs. Isolation</i>) |
| Sexual | Arousal of sexual curiosity and experimentation | Sexual experimentation and activity increase | Deepening sexual identification and intimate relationships |
| Moral | Conventional morality emphasizes adherence to expectations; Reflective perspective | Interpersonal normative morality or social system morality. Mutual perspective | Interpersonal morality or social system morality; Societal perspective |
| Faith | Mythic-Literal to Synthetic-Conventional | Synthetic-Conventional | Postconventional/ Synthetic-Conventional to Individuate-Reflective |
| Academic | Early secondary; Increased academic demands decreased student-teacher intimacy | Later secondary; Increased academic accountability, diversity and competition | College or Vocational Education; Self-directed "adult learning" |
| Legal capacity | Consent for confidential reproductive services and STI treatment * | Driver's license, terminate formal education, work, apply for emancipation * | Consent for health care, vote, control finances, own property, marry, enter the military, purchase alcohol and tobacco * Must obtain independent health insurance |

7.1 Early Adolescence (11-13 years)

It has been said that adolescence begins in biology and ends in culture (Steinberg, 2014). This proposed definition uses both biology and

culture as guides for the chronologic parameters for the first stage of this transitional process, "early adolescence." Beginning with biology, the mean age for the onset of puberty

is 11 years (APA, 2002; Grumbach & Styne, 1998).

Certainly, there are the youth who experience puberty before age 11 and many who transition after the age of 11, but the group experience of puberty is inclined more towards 11 than it is the age of 10 or earlier. From a cultural perspective, a 10-year-old is generally still rooted firmly within the elementary school environment whereas an 11-year-old is making the transition to secondary education, middle/junior high school in America, that more closely aligns with adolescent activities including increased freedom, more rigorous academic expectations, and early romantic attachments. Using the age of 11 as the boundary for entry into early adolescence is consistent with the American Academy of Pediatrics Bright Futures framework (2105) for preventative care services. The end of “early adolescence” in this definition is demarcated at age 13. From a biological perspective, a diagnosis of delayed puberty is made by the age of 14 in the absence of the development of secondary sexual characteristics (Dynamed, 2015; Rosenthal et al., 2002). In a cultural context, American youth generally leave middle/junior high school at the age of 13 and transition into high school (upper secondary education) at age 14, embarking on the full “adolescent” experience.

Early Adolescent Development. Early adolescence is heralded by the onset of accelerated physical and sexual maturation. Accompanying psychosocial adjustment to pubescent changes evokes a preoccupation with body image (Radzik, Sherer & Neinstein, 2002). The early adolescent brain experiences continued development of the pre-frontal cortex influencing cognitive ability; synaptic pruning, affecting coordination and efficiency of thought; and neurotransmitter changes implicated in mood, appetite, and sensation-seeking predilections (Casey, Tottenham, Liston, & Durston, 2005; Barnes-Goraly et al., 2005, Luna et al., 2004; Steinberg, 2014). Cognitive function in adolescence evolves from the concrete “operational logic” of childhood to increasing “formal operations” and nascent abstract thought (Piaget & Inhelder, 2000). As

the ability of abstraction increases, there is a shift from an objectivist perspective to a relativist orientation (Byrnes, 2003), and the emergence of reflective thinking (Selman, 1980). The combination of mesocorticolimbic activity, pubertal hormonal changes, and multifaceted social stressors may cause the early adolescent to be increasingly susceptible to wide mood swings, emotional lability, and reduced impulse control (Arnett, 1999; Buchanan, Eccles, & Becker, 1992; Neinstein, 2002; Spear, 2000; Rosenblum & Lewis, 2003).

Social role development emphasizes “industry vs. inferiority,” a psychosocial orientation accentuating accomplishment (Erikson, 1968). Emotional conflict with parents escalates (Laursen, Coy & Collins, 1998) coinciding with a shifting emphasis on peer involvement (Bradford-Brown & Klute, 2003; Neinstein, 2002) predominated by unisex relationships with increasing interest in heterosexual group contact (Bouchey & Furman, 2003). There is an amplification of overt sexual curiosity and experimentation possibly related to adrenarche and gonadarche (Harrison, 2003; Radzik, Sheres, & Neinstein, 2002). The first awareness of same-gender attraction for gay and lesbian youth often occurs during early adolescence (Anhalt & Morris, 1998; Pew Research Center, 2013). Morality generally functions at a “conventional” level, preoccupied with social norms and expectations, moving toward an appreciation for relational ethics (Kohlberg, 1980; Nucci, 2001). An understanding of social equity shifts from strict adherence to equal treatment to a more individualized appreciation of human needs (Nucci, 2001). Faith ranges from the “literal-mythic” to the “synthetic-conventional” relying heavily on compliance with the beliefs of influential others (Fowler & Dell, 2004).

In the American academic setting, the early adolescent usually transitions from the nurturing nest of a single educator primary school environment to a middle/junior high school context. Generally, the new academic system incorporates a variety of educators and reduced teacher-student relationships, stricter social controls with more punitive consequences, and a more competitive grading

structure with increased academic demands (Eccles & Buchanan, 1996; Eccles et al., 1993; Fenzel, Blyth & Simmons, 1991; George et al., 1992). Legally, the early adolescent remains highly dependent on adult authority. However, at the age of 12 in some states, the adolescent may consent autonomously to confidential health care services (English, 2002).

7.2 Adolescence (14-17 years)

All proposed definitions of adolescence, both current and historic, include the ages of 14-17, and the high school years in the American education system. High school is a significant, often idealized, and romanticized cultural phenomenon in western society (Modell & Goodman, 1990) portrayed throughout cinema in movies such as *Grease*, *Mean Girls*, and *Dead Poets Society*. The lived experience of a high school student is qualitatively different in culture, expectations, exposures, and opportunities than that of a middle/junior high student or a high school graduate. Accordingly, the CDC uses high school, grades 9-12, as the sampling frame for adolescent health indicators (CDC, 2015). Using a scholastic cultural framework, movement from early adolescence begins at the average age of entrance into high school at age 14 and ends at age 18, generally coinciding with graduation from secondary education and the most common age of legal majority in western cultures (UNICEF, 2015). Although other western countries employ varying constructs for secondary education, all include the ages of 14-17 with compulsory education generally mandated until the age of 16 (NCES, 2015).

From a developmental perspective, the age of 14 years is considered a significant psychosocial benchmark. It is widely purported in the developmental literature that at age 14 an adolescent demonstrates the “ability” to maintain adult reasoning patterns (Petersen & Leffert, 1995). “Ability” for adult reasoning is differentiated from reasoning “capacity” which is highly subject to life experience and other contextual factors (Petersen & Leffert, 1995; SAM, 2003). The reasoning mechanisms of adolescents have been found to fluctuate considerably in response to contextual forces

such as peer influence (Petersen & Leffert, 1995; Stenberg & Scott, 2003; Dorn, Susman & Fletcher, 1995). An appreciation for developmental changes in reasoning ability supports a theoretical separation between the early adolescent (before age 14) from the older adolescent (after age 14).

It is tempting to designate 14-17 as “middle” adolescence since the developmental transition is most frequently divided as a triad. However, this proposed definition does not use “adolescent” nomenclature for the ages of 18-25, therefore eliminating the identification of a “middle” adolescent stage.

Adolescent Development. Throughout adolescence, the teenage body and brain proceed in development toward full adult stature and complete sexual maturation. Although there is an increasing acceptance of the pubertal physique, concern over making the body more attractive escalates (Neinstein, 2002). Significant brain development continues including progressive frontal lobe development, cerebral myelination, synaptic pruning, and neurotransmitter stabilization (Spear, 2000; Steinberg, 2014). There can be heightened vulnerability due to asynchronous development between the highly attenuated cerebral sensation-seeking mechanism and a developing self-regulatory system (Steinberg, 2014). Although full “formal cognitive operations” begin to emerge and reasoning capacity becomes more complex, abstract, and logical (Piaget & Inhelder, 2000), the efficiency of cognitive process and control of impulsivity remains immature (Steinberg, 2014). While a highly relativistic perspective may predominate, there is an increasing appreciation for the validity of multiple perspectives and the maturation of principled moral judgments (Byrnes, 2003; Smetana & Turiel, 2003) including the use of third-person or mutual perspective-taking (Selman, 1980).

There is an increasing scope of emotions throughout adolescence related to progressive cognitive development and cumulative life experience (Rosenblum & Lewis, 2003). Research suggests that classic adolescent egocentric thought patterns, including the

construction of an “imaginary audience” and a “personal fable” (Elkind, 1978), originally believed to arise from immature cognitive abstraction, may be better explained as “interpersonally-oriented daydreaming” associated with the process of separation-individuation (Vartanian, 2000). Developmentally propelled narcissism and its counterpart, personal despair, contribute to the potentially tumultuous emotional state of the adolescent (Blos, 1979). The parental relationship is transformational, characterized by a steadily decreasing frequency of conflict but an increase in the emotional intensity of the disagreements (Larson, et. al., 1996; Laursen, Coy & Collins, 1998; Zimmer-Gembeck & Collins, 2003). Peer involvement peaks during this stage as heterosexual peer groups develop into cliques and crowds (Bradford-Brown & Klute, 2003) and dyadic intimate relationships increase in prevalence and intensity (Bouchey & Furman, 2003; Bradford-Brown & Klute, 2003; Neinstein, 2002).

Role development emphasizes “identity vs. role confusion,” the task of defining “self” and the “self” in relation to society (Erikson, 1968). Conscious sexual identity awareness and formation accelerate (Ryan & Futerman, 1997) and sexual experimentation, activity, and risk behaviors proliferate (Neinstein, 2002). By the end of high school, approximately one-half (48.6 %) of in-school American youth have engaged in sexual intercourse (CDC, 2015). This statistic is likely an underestimate of the amount of total sexual behavior in adolescence because it does not include a sampling of the highest risk out-of-school youth. In the gay and lesbian youth populations, initial same-gender sexual experience and self-identification as gay or bisexual occurs most frequently in the high school years, at a median age of 17 (Anhalt & Morris, 1998; IOM, 2011; Pew Research Center, 2013).

Morality during this period may assume an “interpersonal normative” perspective emphasizing the concerns and expectations of significant others or move towards a social system perspective, morality governed by law and authority (Kohlberg, 1980; Nucci, 2001). Faith tends to be “synthetic-conventional,”

adhering to the beliefs that predominate within the social environment and moving increasingly toward an “individual analytical reflective” belief pattern (Fowler & Dell, 2004).

Academic accountability and achievement is emphasized during the high school years and the curriculum becomes increasingly more diverse, rigorous, and competitive (Eccles & Roeser, 2003; George et al., 1992). The adolescent accrues new legal privileges between the ages of 14-17 allowing for increasing independence from adult guardians and may be considered a “mature minor” capable of providing informed consent (Neinstein, 2002). In most states, the 16-year-old can obtain a driver’s license, enter the workforce, drop out of formal education, and apply for emancipated status (English, 2002).

7.3. Young Adulthood (18 to 25 years)

The final phase of the “adolescent” transition begins at the age of majority, accepted in most American states and internationally as age 18 (UNICEF, 2015). Exceptions in the U.S. are Alabama, Delaware, and Nebraska where the age of majority is 19 years, and 21 years in Mississippi. Although in Mississippi an 18-year-old may consent to health care (English, 2002; NCSL, 2015). In most cultures, reaching the age of majority imputes legal autonomy and an expectation of increasing social and economic independence. There is a categorical difference between opportunities, capabilities, and responsibilities in society before and after the age of majority. Therefore, any sub-division of adolescence combining pre-majority youth and post-majority youth is conceptually flawed. Age 18 also usually corresponds with graduation from secondary education in the U.S., another significant social indicator of movement away from childhood and into social maturity. In several American states, graduation from high school is used as a legal criterion for reaching the age of majority (NCSL, 2015).

The incorporation of the late teens and early 20s into the understanding of the transitional phase of “adolescence” reflects the most

current perspective on physical and social development in youth. Although the 18-25-year-old may appear complete in physical maturity, MRI research demonstrates that the frontal lobe and limbic system of the human brain continue to develop through the late teens and possibly even into the early 20s (Beckman, 2004; Spear, 2000; Steinberg, 2014). Potentially related to continued brain development and combined with increased environmental exposures and progressive social independence, risk behaviors often peak during the ages of 18-25 (Arnett, 2002; Bachman et al., 1996; NAHIC, 2014). Shakespeare, without the use of fMRI technology, concurred with this understanding of youth in 1623 as expressed in *The Winter's Tale*:

"I would there was no age between sixteen and three-and-twenty, or that youth would sleep out the rest; for there is nothing in the between but getting wenches with child, wronging the anciently, stealing, fighting--Hark you now! Would any but these boiled brains of nineteen and two-and-twenty hunt this weather?" (Shakespeare, trans. 1969, 3.3, 58-64)

The minimum age to be eligible to serve as an elected representative to the U.S. Congress is 25 (U.S. House of Representatives, 2015) reflecting a cultural understanding of the transition into full adult reasoning since the inception of the United States. Erik Erikson (1968) and Margaret Mead (1961) conceptualized late adolescence as a period of "psychosocial moratorium," a granted delay of obligations and responsibilities which functions as an opportunity for young people to try on roles and gather experiential understanding without the obligation of permanent commitment (Erikson, 1968; Mead, 1961). Arnett's (2000) theory of the "Emergent Adult," describes a period of social instability, change, and exploration. Since the mid-twentieth century, the percentage of American youth entering higher education after high school has risen from 14% to 60%, delaying full-time employment, marriage, and parenthood until the mid to late 20s or beyond (Arnett, 2002).

Many developmental theorists conclude that a prolonged "adolescence" has become a cultural imperative for transition into adulthood in complex industrialized societies (Arnett, 2000; Graber & Brooks-Gunn, 1996; Steinberg, 2002). Clearly, there is considerable variance in the existence and length of the "adolescent moratorium" between industrialized and developing countries. Countries and cultures with a lower socioeconomic status retain less financial reserve to facilitate prolonged education and other youth development activities and therefore include more adolescents in the labor force and in adult family roles (Fussell & Greene, 2002).

Social factors such as marriage, parenthood, entrance into the workforce, and financial independence provide indicators for a terminal point of adolescence (Arnett, 2000; Elliot & Feldman, 1990). The average age for first marriage in the U.S. for men is 29.3 years and 27.0 years for women (U.S. Census Bureau, 2015); the mean age for first childbirth is 26.0 years (CDC, 2015); and the vast majority of the full-time workforce is comprised of workers between the ages of 25 and 64 years (Bureau of Labor Statistics, 2015). The Affordable Care Act of 2010 now allows for youth through the 25th year to be included as dependents on their parent's health care insurance (CMS, 2015). These facts argue for a conceptual chronological boundary of "adolescence", the process of transitioning into adulthood, through 25.

Although it is argued that role transitions assume less relevance for the personal conception of adulthood than character qualities reflecting self-sufficiency, "emergence into adulthood" by subjective character qualities and self-definition is still delayed until the late 20s (Arnett, 2002; Arnett & Galambros, 2003). The dilemma arises of what to call this age group. A variety of descriptors including "youth", "late-" and "post-adolescence", and "emergent adult" have been suggested for this later transitional phase. The proposed definition of adolescent chronology has adopted "young adult" as the nomenclature for the later phase of this developmental transition for a variety of

reasons. Foremost, generally at the age of 18 and fully by the age of 21, youth assume the obligatory legal responsibilities of an adult including consent, criminal jurisdiction, voting, military participation, and property ownership. These societal responsibilities are significantly distinct from the earlier adolescent experience. As important, cultural humility would dictate that persons be respectfully addressed as they self-define. In a convenience sample of over 200 rural, suburban, and urban youth between the ages of 18-25 in Northern California, the vast majority of participants selected “young adult” over “adolescent” as the preferred self-descriptor. It seems only fitting to confer respect for progressive maturity as readily as we ascribe personal responsibility. That being said, this chronology assumes that “young adulthood” is a component of the critical “adolescent” developmental transition deserving equal investment in youth program development and research.

Young Adult Development. As physical growth terminates in adult stature in young adulthood, there is an acceptance of pubertal changes and an integration of body image with personality (Neinstein, 2002). Although the physical stature of the 18-year-old may appear fully developed, the frontal lobe of the cerebral cortex continues to develop into the early 20s (Beckman, 2004; Spear, 2000) and cognitive processes become increasingly complex and abstract (Piaget & Inhelder, 2000) and less impulsive (Beckman, 2004). Reason-based techniques for appreciating the validity of multiple perspectives are further established (Byrnes, 2003). The amplitude of mood swings is reduced, and a relative even-tempereness emerges as the development of the mesocorticolimbic systems enhances the self-regulatory mechanism, pubertal hormones are stabilized, and there is increased practice and experience with emotional expression (Blos, 1979; Buchanan et al., 1992; Spear, 2000; Steinberg, 2005; Rosenblum & Lewis, 2003).

Role development shifts from “identity vs. role confusion” (Erikson, 1968) as realistic vocational goals are assumed (Neinstein, 2002), to “intimacy vs. isolation” (Erikson, 1968) with concern for establishing long-term

interpersonal relationships. Peer group interaction becomes less important, and more time is spent in intimate relationships with increased sexual activity (Bouchey & Furman, 2003; Bradford-Brown & Klute, 2003; Lerner, 2002; Neinstein, 2002). Gay, lesbian, and bisexual youth first disclose their sexual orientation on average during young adulthood, at a median age of 20 (Anhalt & Morris, 1998; Pew Research Center, 2013). Parental conflict continues to diminish in frequency yet remains high in intensity (Larsen et al., 1996; Laursen et al., 1998).

Although the young adult may exist in a fluctuating and uncommitted social space, or moratorium (Arnett, 2002), the beginning manifestation of a life plan emerges (Blos, 1979). The young adult may increasingly include “social system morality” entrenched in law and authority (Kohlberg, 1980; Nucci, 2001) and “societal perspective-taking” (Selman, 1980) to the moral reasoning repertoire; or perhaps move into an experience of post-conventional morality, although this advanced level of moral reasoning is limited in early adulthood and beyond (Lapsley, 1990). Young adults may tend to negate convention as “nothing but” the expectations of society, and systems of norms may be viewed as arbitrary, inspiring value relativism and situational ethics (Nucci, 2001). Moral judgments throughout adolescence and young adulthood have been found to be highly dependent on content and context, and an individual may use varying patterns of moral processing dependent on the specific situation (Smetana & Turiel, 2003; Walker, 2004). “Synthetic-conventional” spiritual faith is predominant, however, a transition to “individuated-reflective” spirituality, applying a more personal existential responsibility for beliefs, commitments, and lifestyles may occur (Fowler & Dell, 2004).

The young adult leaves secondary education for vocational training, collegiate and graduate education, or adult social roles such as employment and parenting, where adult learning styles and individual accountability are expected (Bryde & Milburn, 1990). In most states, the individual assumes full rights and

responsibilities of a citizen at the age of 18. Post-majority youth may vote, command personal finances, enlist in the military, consent to health care, legally engage in sexual intercourse, and enter into marriage (English, 2002). Within the legal system, the post-majority youth is processed as an adult. The young adult may purchase cigarettes, and in some states marijuana at age 18, but is generally prohibited from purchasing alcohol until age 21. Risk behaviors including unprotected sex, substance abuse, and risky driving practices peak during the young adult years and then decline during the middle to late 20s (Arnett, 2002; Bachman, et al., 1996; NAHIC, 2014).

8. The Adolescent Transition Continuum

Using these three significant transitions within adolescence—the initiation of puberty, entrance into high school, and the age of majority—a framework for the chronological definition of sub-stages within adolescence emerges, delineating “early adolescence” as the ages of 11 to 13 years, “adolescence” as the ages of 14 to 17 years, and “young adulthood” as the ages of 18 through 25 (See Figure 2).

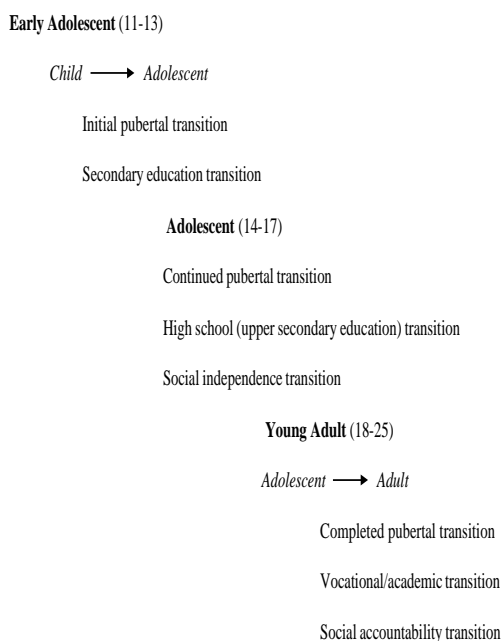


Figure 2. *Transitional Sub-stages of Adolescence*

9. Conclusion

The definition of adolescence matters substantially to adolescent research and youth program development. Clearly, the experiences of a 12-year-old adolescent and a 17-year-old adolescent cannot be statistically “averaged” to obtain a valid conclusion on the nature of adolescent risk and opportunity. The comparison of research findings across the empirical literature when the sampling frames are inconsistent is also confusing. Likewise, youth program development is dependent on a theoretical understanding of this critical transitional period. Service needs of an early adolescent are likely to vary significantly from appropriate program development for the high school student or young adult. Advocacy for youth development programs will benefit greatly from the clarity of language with an articulation of the developmental reasoning supporting the requisite youth services. There is not necessarily one correct construction of the developmental transition of adolescence and any proposed definition is understood as a highly variable continuum dependent on context and subject to cultural and temporal influences. As the science of human development evolves, so will the understanding of adolescent development. However, given an appreciation for continual conceptual evolution, consistency in the description of adolescence is essential to the science of adolescent health and advocacy for youth development programs.

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