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Abstract

This paper summarizes several of the most significant issues in the area of culture and adolescent development. First, we discuss the classical debates regarding the universality of adolescence as a distinct period of life and as a period of emotional turmoil. Second, we focus on the role of culture in the physical, cognitive, and socio-emotional development of adolescents. Finally, we outline two emerging issues in cross-cultural adolescent psychology (i.e., developmental processes and the effects of social change and globalization).

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Introduction

In 1916, G. Stanley Hall, the father of adolescent research, published *Adolescence*. This book marks the beginning of a systematic exploration, both empirically and theoretically, of adolescence as a unique period of the life-span. During the eight decades following its publication, research on adolescence has gradually attracted more and more attention from researchers from various disciplines such as psychology, sociology, anthropology, and medicine. Gerald Adams (2001), a prominent adolescent researcher, remarked that "by the end of the 1990s the study of adolescence [had] come of age."

Paralleling scholarly trends in other areas of psychology, the role of culture in adolescent development has been recognized for some time. For example, soon after Hall's proclamation of adolescence as a period of *Sturm und Drang* (storm and stress), Margaret Mead published *Coming of Age in Samoa* (1928) in which she used a cultural case study to challenge Hall's notion. Such cross-cultural studies on adolescent development, however, were woefully few in number for most of the last century. Up until the 1950s, less than 5% of research on adolescence included cultural or cross-cultural elements. The proportion increased to 7% between the 1960s and 1980s. The past two decades, however, have witnessed a major surge: Cultural and cross-cultural research accounts for 14% of recent adolescent research.

In this chapter, we summarize some of the most significant issues and research findings in the area of culture and adolescent development. First, we will briefly mention two classic but enduring debates on the universality of adolescence and adolescent storm and stress. Then, we summarize the major findings on the role of culture in three areas of adolescent development: physical, cognitive, and socio-emotional development. Finally, we briefly outline two emerging issues in cross-cultural adolescent research: universality in developmental processes and the effects of social change and globalization.

Classic Debates

The Universality of Adolescence as a Distinct Life-Period

The most fundamental and classic question in cross-cultural adolescent research is whether all cultures in the world view adolescence as a unique life period. Most researchers tend to believe that industrialization in the late 19th century brought about the emergence of adolescence as a distinct period of the life-span (e.g., Aries, 1962; Cobb, 1995). In pre-industrialized societies, children typically do not have formal schooling and are married at a young age. The latter necessitates a sudden transition from childhood to adulthood.

After studying ethnographic data from more than 170 pre-industrial societies, however, Schlegel and Barry (1991) concluded that almost all societies have the notion of adolescence. In most of the societies, the beginning of adolescence is marked by initiation ceremonies, or rites of passage, that are major public events (Delaney, 1995). Themes of initiation ceremonies are typically consistent with the eventual adult responsibilities (e.g.,

productivity or fertility) in the various societies. In contrast, few or no formal initiation ceremonies exist in industrialized societies, leaving the period of adolescence with no clear beginning or the end.

The existence of adolescence as a unique period may also vary within a culture and by gender and social class. Schlegel and Barry (1991) found that girls in the Gros Ventre (a nomadic Native American tribe that inhabited northeastern Montana) seemed to lack the concept of adolescence, perhaps because they are married by about age 10. Sarasmathi (1999) recently argued that Indian children in the upper social class typically had a more distinct stage of adolescence than children in the lower social class. Indian girls in general also experience greater continuity between childhood and adulthood than do boys.

The Universality of Adolescence as a Period of "Storm and Stress"

As mentioned above, Hall depicted adolescence as a tumultuous period, a havoc caused by the "raging hormones" brought about by puberty. There are good reasons to believe that adolescence, especially early adolescence, may be a turbulent period. The beginning of adolescence involves major physical transitions that include growth spurts, sexual maturation, hormonal changes, and, as the most recent neurological research shows, brain development in the prefrontal area that is critical for impulse control. A middle adolescent is often physically mature enough to perform adult functions (i.e., work and childbearing), but lacks the psychological maturity, social status, and financial resources to perform those functions responsibly. This is especially the case in industrialized and post-industrialized societies where a lengthened period of schooling is necessary, and sanctioned by the law, before adolescents can take part in the mainstream adult world. This disjunction between biology and society has the potential to create a difficult transitional period for adolescents. Consistent with these arguments, adolescence represents is a period in the life-span in which problem behaviors including criminal behavior rises sharply, as do symptoms of depression.

Hall's sweeping claim of adolescent storm and stress was challenged by Mead (1928), who presented an account of the coming of age for Samoan adolescents that showed no indications of storm and stress. Mead explained that Samoan children experienced a very gradual and smooth transition from childhood to adulthood because, from an early age, Samoan children took part in work tasks (e.g., caring for younger siblings, planting and harvesting, and preparing food) that have meaningful connections to the work they will perform as adults. Recent research (e.g., Arnett, 1999; Freeman, 1983) has corrected both Hall's "demonized" adolescents and Mead's "romanticized" life of Samoan adolescents. Most adolescents live a life with few serious personal or social problems, but for a minority of adolescents, adolescence still represents the most troubling years. That is the case in industrialized nations as well as in societies such as Samoa.

Culture and Adolescents' Physical, Cognitive, and Socio-Emotional Development

Culture is a system of beliefs, values, languages, and behaviors, and human-made aspects of the physical environment, that varies from one group to another. These variations can have powerful effects on adolescent development. Moreover, the different components of culture often interact with one another. For example, cultural values and societal systems may impact individual adolescents' development through the mediating effects of proximal social contexts such as family and peers. They also may moderate the association between social and environmental factors and adolescent outcomes. In this section, we summarize the major findings concerning cross-cultural variations in the domains of adolescents' physical, cognitive, and socio-emotional development.

Physical Development

One of the most significant developmental changes in adolescence is puberty. Although puberty appears to be a biological phenomenon that is hard-wired in the human body, systematic research has shown clear evidence of cultural effects on the onset of puberty. One of the clearest markers of pubertal development for girls is menarche, the time when a girl begins her menstrual cycle. Eveleth and Tanner (1990), in their review of the sexual development of adolescents worldwide, found that the timing of menarche varies greatly across cultures. Of the almost 150 groups of people studied, the mean age of menarche ranged from 12.0 years (middle-class adolescents from Caracas, Venezuela) to 18.0 years (adolescents from the Bundi highlands in New Guinea).

Related to the cross-cultural variations in the onset of menarche is the finding that the age of menarche has been declining in the past 140 years. From 1860 to 1980, in the industrialized nations of Europe, the age of menarche has dropped approximately .3 years per decade. A similar trend has been found for adolescents in the U.S., starting at least in the 1920's. Japan may have the steepest decline in the age of menarche in modern history, as it has seen a one-year drop per decade between 1950 and 1975. It is likely that biological factors will ultimately set a lower limit to the age at which menarche occurs.

What factors might account for these cross-cultural and historical variations in age of menarche (also known as the secular trend)? The first major factor is nutrition. Good nutrition is associated with an earlier onset of menarche (Eveleth & Tanners, 1990). Systematic variations in the amounts of nutritional intake across cultural groups and historical time periods would result in significant variations in the age of menarche. Thus, girls in developed countries have an earlier age of menarche than their counterparts in developing countries, and girls in families with higher socio-economic status tend to reach menarche sooner than girls of low socio-economic status. For example, "well-off" Nigerian adolescents from Ibadan start menstruation approximately .5 years earlier than their "poor" counterparts. Similarly, urban girls reach menarche earlier than girls living in rural communities because urban residents typically have access to better-quality food. Adolescent girls from Cairo have a median age of menarche between 12 and 13 years, whereas the age of menarche for rural Egyptian girls is close to 14 years old. Chronic

under-nutrition also tends to delay menarche. For example, adolescents from the Appalachian mountain area in the Eastern U.S. -an area that is characterized by chronic poverty- had a mean age of menarche two years later than well-nourished controls from the same region (14.4 years versus 12.4 years).

Nutrition may not be the only factor that accounts for cross-cultural variations in age of menarche. Other factors that may play a role include variations in physical exertion (more exertion results in later menarche) and ecological factors such as altitude (adolescents living in areas of high altitude tend to have a later date of menarche).

Cultural factors affect other aspects of physical development as well. For example, Bogin (1999) compared several studies that examined the height and weight of late adolescents and young adults from various cultures around the world. He concluded that young adults (age 20) from the Netherlands may be the tallest people in the world. The men had an average height of 182.0 cm; the women, an average height of 168.3 cm. Further, young adult Efe Pygmies from African (ages 19-29) are the shortest people in the world. The men had an average height of 144.9 cm, and the women had an average height of 136.1 cm. Aymara Indians from Bolivia and Mayan Indians from Guatemala are also relatively short. Both of these groups are very poor and often experience malnutrition and infectious disease, which stunt physical growth.

Cognitive Development

One of the enduring topics of cross-cultural research is cognition. Cross-cultural research in this domain covers a range of subject matter, from Segall and colleagues' (1966) early work on visual illusions to Nisbett and colleagues' (2001) recent work on folk epistemology. Especially relevant to adolescent development, however, are the following four areas of research: Piaget's theory of developmental stages, Kohlberg's theory of moral reasoning, and studies of intelligence and academic achievement.

Piaget's stage theory of cognitive development suggested that adolescents develop from concrete operations to formal operations. The stage of concrete operations occurs from approximately 7 to 11 years of age and is characterized by abilities of the child to reason logically about concrete events. Formal operations (the ability to think in more abstract ways) start to develop at around age 11 and continue to develop during early adulthood. Generally speaking, the qualitative aspects of the theory, such as sequence of the stages, appear to be valid across cultures (Dasen, 1977). However, quantitative aspects, such as the timing of progression through the stages, appear to vary greatly across cultures. Cross-cultural psychologists have also challenged the notion that formal operational thought is the end-state toward which thought develops. Although most adolescents in industrialized societies reach the stage of formal operations, people in technologically unsophisticated societies typically do not show formal operations when tested with Piagetian tasks. How to interpret these differences is a point of contention between absolutists and relativists. Absolutists believe the developmental sequence and ultimate stage are likely to be universal. Relativists believe that the notion of formal operations as the prized end-stage is a result of the Western value system, and that the

ultimate criterion for the highest level of cognitive development should be context-dependent. For cultures in which formal operations are not cultivated and rewarded, there is little wonder that adolescents (and adults) do not develop these cognitive skills.

Similar findings and similar arguments have surrounded another aspect of cognitive development--moral reasoning. Derived from Piaget's theory, Kohlberg's theory of moral reasoning is also a stage theory. Cross-cultural researchers have looked at both the sequence of the stages and the timing of the stages to determine if the theory is universal. Generally, the sequence of the stages is universal--people tend to follow the same course. However, the timing of the age of attainment appears to vary across cultures. For example, Kohlberg reported that even at the age of 16, most adolescents in his rural samples in Yucatan and Turkey still reasoned at the pre-conventional level. Again, as is the case with formal operations, there is no consensus on whether Kohlberg's concept of post-conventional morality, characterized by concerns for justice, should be the highest level universally. In individualistic societies, justice appears to be the guiding principle, but in collectivist societies, care and concern for others is more important than justice.

An even more controversial area of research is cross-cultural differences in intelligence. Some researchers (e.g., Rushton, Lynn, and Herrnstein) have persistently argued that there are systematic variations in general intelligence among various cultural/racial groups. These claims, however, have been seriously challenged by others on theoretical, methodological, and moral grounds (e.g., a lack of culture-fair definition of intelligence and culture-fair tests of intelligence). Controversies notwithstanding, certain cultural components are definitely related to individuals' intelligence. One example is nutrition. Earlier work by Robert Klein and numerous others set the foundation for research linking nutrition with cognitive abilities and socio-emotional development (e.g., Barret, Radke-Yarrow, & Klein, 1982). Sigman and Whaley (1998) have recently examined the relation between nutrition and intelligence in cultural contexts. In a study of Kenyan children, those who had consistent access to protein from animal sources had higher IQs than children who either had no access or lacked consistent access to food protein from animal sources. The animal source food protein provides nutrients to children, such as zinc and iron, which were not available from other sources. Sigman and Whaley argued that poor diet results in limitations in brain development, which in turn leads to inferior cognitive functioning.

Cross-cultural differences have also been found in adolescent school achievement. Several large-scale international studies (e.g., The Third International Mathematics and Science Study) have shown that students in Asian countries such as Japan, Korea, Singapore, and China perform at a consistently higher level than their counterparts in other parts of the world. Due to the complex nature of school achievement, almost all cultural components can be viewed as contributors to cross-cultural variations in school achievement. They range from obvious reasons such as the value of formal education to ones that are less obvious such as language systems, poverty rate, and malnutrition. As one example, the following factors may help account for the East Asians' superior school achievement: the cultural value of education, cultural beliefs in the positive outcomes of hard work, high parental expectations and standards, dynamic classroom instruction, and

more time devoted to academic work in and outside of school (e.g., Stevenson, Chen, & Lee, 1993).

Socio-Emotional Development

The family and peers are two of the major social contexts of socio-emotional development for adolescents. Within the family context, three areas of research are notable: effects of parental warmth, consequences of parent-adolescent conflict; and timetable of establishing autonomy from parents. Much research has been conducted on parental warmth. Parental warmth, expressed in both physical (e.g., hugs and kisses) and verbal ways (e.g., praise and expressions of fondness), has been found to be a universal phenomenon (Rohner, 1986). It also seems to have a universal association with positive psychosocial outcomes, such as psychological well-being, self-esteem, and academic achievement. Lack of parental warmth appears to have a universal association with negative psychosocial outcomes, such as aggression, school misconduct, emotional unresponsiveness, and depressive symptoms (Chen, Lee, & Stevenson, 1996; Greenberger & Chen, 1996).

Despite the universality of its existence, the level of parental warmth is not the same across cultures. Cultures that are more socially complex and those that are industrialized tend to perceive parents as less warm and accepting, or even rejecting, as compared to more traditional cultures. Two possible explanations for this difference have been suggested. First, in industrialized countries, parents spend more time out of their homes working and away from their children than do parents in traditional societies. This increased separation may lead to an increase in youngsters' feeling uncared for. A second possible explanation is that industrialization has led to individualism. One aspect of individualism is to place the needs of the self over the needs of others. Parents in individualistic societies therefore may not expend as much care and affection on children as parents in collectivist societies. In the long run, less strong parental affection and acceptance on the part of parents in individualistic societies may prepare youths for "going it on their own" and developing affectional ties with nonfamilial others.

The conflicts between parental needs and expectations and those of adolescents also may manifest as overt parent-adolescent conflicts. Research has shown both similarity and differences in the nature, level, and correlates of parent-adolescent conflicts across the different cultures that have been studied (e.g., Chen et al., 1996; Greenberger & Chen, 1996; Yau & Smetana, 1996). The domains of conflict are typically mundane issues such as household chores. The level of conflict is generally modest, with some slight variations (e.g., somewhat lower for Chinese than Americans, but higher for Chinese immigrants). Higher levels of parent-adolescent conflict have been associated with lower levels of parental warmth and with higher levels of high adolescent misconduct and depressive symptomatology across several cultural groups.

Another major aspect of parent-adolescent relationships concerns adolescent autonomy. Parents and adolescents in individualistic societies tend to have earlier expectations of autonomy than parents and adolescents in collectivist societies. For

example, Feldman and Rosenthal (1991) found that U.S. and Australian adolescents had earlier expectations for autonomy than did Hong Kong adolescents. The largest cultural differences were found for behaviors that would fall into the category of misconduct (e.g., smoking and drinking alcohol) and those related to peers (e.g., "attending boy-girl parties," "dating," and "preferring to do things with friends than with family"). Adolescent girls across the three cultures had later expectations for autonomy than did adolescent boys.

In addition to the family context, peer relationships represent another major social context for adolescent development. Adolescents in different cultures spend different amount of time with their peers (Fuligni & Stevenson, 1995; Larson & Verma 1999). Consequently, peer influence tends to vary. For example, peer factors play a less important role in Chinese adolescents' misconduct than in American adolescents' misconduct because Chinese adolescents spend less time with their peers (Chen et al., 1996). Peer relationships have also been found to be important for adolescents' psychological well-being in different cultures (Greenberger, Chen, Tally, & Dong, 2000).

Emerging Issues

The flurry of recent cross-cultural research on adolescents has addressed many important research questions, as indicated above, but also raises many new issues. Two of the new issues are highlighted here. First, traditional cross-cultural research tends to emphasize mean differences across cultural groups (e.g., people of Culture A score or rank higher on Variable X than those of Culture B). Little attention has been paid to the examination of differences in the resulting developmental processes. Recent statistical advances that allow researchers to conduct multi-group comparison of multiple regressions and path analyses have allowed for a more systematic examination of cross-cultural differences in developmental processes. Interestingly, much of the research (e.g., Chen et al., 1995; Rowe, Vazsonyi, & Flannery 1994; Vazsonyi et al., 2001) has shown great similarity in developmental processes in domains such as academic achievement and delinquency. Much more research is needed to explore other domains of adolescent development.

A second emerging issue in cross-cultural adolescent research is the effects of social change and globalization. The last decade of the 20th century represents one of the greatest social transformations that has ever occurred on the global scale. Many East European and Asian countries underwent, and continue to undergo, major social changes. The forces driving these changes have come from both within and without the individual countries. As a force from outside of a culture, globalization has been a significant trend, facilitated by modern communications technology such as computers, the internet, and satellite television. Researchers have just begun to understand the potential impacts of these social changes and to ponder the continuing trends of globalization in the 21st century that can be expected (Larson, 2002; Van Hoorn, Komlosi, Suchar, & Samelson, 2000). Much more research is needed to help us understand how these social changes are influencing adolescents' physical, cognitive, and socio-emotional development.

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Questions for Discussion

1. Is adolescence universal? Is adolescence universally a period of "storm and stress"?
2. How is nutrition related to the timing of menarche? How does that connection help explain cross-cultural and historical variations of the onset of menarche?
3. Describe one criticism of Piaget's theory of cognitive development and one criticism of Kohlberg's theory of moral development that has been supported by cross-cultural research.
4. Describe how culture is related to adolescents' school achievement.
5. Describe one cross-cultural similarity and one cross-cultural difference in adolescent-parent relations.
6. What are the two emerging issues of cross-cultural research on adolescence? Think of one hypothesis concerning each emerging issue that you would like to test.
7. In this chapter, nutrition was mentioned as an explanation for cross-cultural differences in three aspects of adolescent development. Once you understand those examples, please think about how the role of nutrition can be incorporated in the future studies of social change and adolescent development.