

J Res Adolesc. Author manuscript; available in PMC 2012 March 1.

Published in final edited form as:

JRes Adolesc. 2011 March 1; 21(1): 273–280. doi:10.1111/j.1532-7795.2010.00728.x.

Insights on Adolescence from A Life Course Perspective

Monica Kirkpatrick Johnson,

Department of Sociology, Washington State University, Pullman, WA 99164-4020

Robert Crosnoe, and

Department of Sociology and Population Research Center, University of Texas at Austin, 1 University Station A1700, Austin, TX 78712

Glen H. Elder Jr.

Carolina Population Center, University of North Carolina at Chapel Hill, 123 W. Franklin St., CB # 8120, Chapel Hill, NC 27516

Abstract

In this essay, we argue that viewing adolescence within the full life course will improve our understanding of both adolescence itself and the life course more generally. Such an approach makes explicit how adolescence is linked to developmental processes in the years both before and after adolescence in ways that are shaped by broader patterns of social change. We highlight insights from research over the past decade that illustrate the kinds of life course questions about adolescence that need to be posed in the next decade, focusing on connections between adolescence and the two life stages that border it: childhood and young adulthood. Although life course themes cut across the many different topics that adolescence scholars typically study, we draw our examples from three specific substantive areas—educational success, puberty, and problem behavior.

The Society for Research on Adolescence is officially "devoted to research on the second decade of life." In this spirit, its flagship journal has published important articles over the last ten years that, collectively, have advanced scientific understanding of adolescence as a unique stage of life. Without diminishing the impact of this work, we argue that it is equally important to elucidate the role of adolescence within the larger life course. In other words, our primary goal of understanding adolescence as a developmental period in its own right should come with a complementary goal of connecting insights about adolescence and its developmental processes to other life periods. These dual goals serve both our understanding of adolescence itself as well as the life course more generally. After all, a significant portion of the meaningfulness of adolescence lies in its power to translate childhood experiences into later competencies and statuses and then, in turn, to set up the transition to adulthood (Steinberg & Morris, 2000).

In this essay, we make a case for this agenda by discussing insights emerging from multiple scientific disciplines over the last several years that suggest new questions that need to be asked and answered. We do so by focusing on the connection of adolescence to its two contiguous life stages—childhood and young adulthood—and, in the process, discussing three developmental issues that have long been at the forefront of research on adolescence: educational success, puberty, and problem behavior. Our intent is not to provide an exhaustive review of a decade's research on these three issues but instead to highlight examples of each that we find especially revealing about the power of life course approaches to adolescence.

The Life Course Perspective and Adolescence

As background for this discussion, the life course refers to "the age-graded sequence of roles, opportunities, constraints, and events that shape the biography from birth to death" (Shanahan & Macmillan 2008:40). At its core, a life course perspective insists that development is lifelong and that no life stage can be understood in isolation from others. In doing so, it uniquely brings together many conceptual themes that are individually found in a variety of developmental and demographic perspectives (Elder, Johnson, & Crosnoe, 2003). Three such themes are particularly relevant to our discussion.

One theme concerns *continuity and discontinuity in life pathways*—whether and how the development we observe during adolescence is embedded within stable trajectories across life stages or instead represents a major departure from past development and redirection of future development. Indeed, our discussion in this essay suggests that adolescence can exacerbate or buffer against early disadvantages or other childhood experiences in ways that affect adulthood. Experience in adolescence may also provide turning points that deflect earlier behavioral trajectories, and the unfolding of adolescence may allow for the accumulation of prior life advantages and risks that send young people on divergent paths into and through adulthood (refer back to Dragastin & Elder, 1975 for an early discussion of such issues).

Another conceptual theme draws attention to *the role of individuals in their own development*. Here, we delve into the complex ways in which young people select into personal experiences, interpersonal relationships, and social settings in ways that reflect their past and contribute to their futures. As we discuss, this process of selection of person occurs through the agentic strivings of individuals as well as through the interplay of environment and biology.

A final theme, the importance of historical change, is woven throughout our discussion. In general, the nature and meaning of adolescence is evolving, with a simultaneous acceleration of transitions into adult norms and values and prolongation of the achievement of autonomy for many segments of the population (Settersten, Furstenberg & Rumbaut, 2005). The importance of historically informed approaches to adolescence is pronounced for the three topics that we have chosen to highlight here, in that the current historical moment has altered the landscape of education, puberty, and problem behavior. First, global economic restructuring has increased the lifelong returns to educational attainment to historic levels, thereby drastically increasing the long-term consequences of early academic experiences (Goldin & Katz, 2009). Second, the decline in age of puberty, especially among African-American girls, is a dramatic secular trend with implications for social behavior, fertility, and many other developmental domains as more and more young people have the appearance and reproductive capacities of adults without corresponding psychological and cognitive maturation (Ellis, 2004). Third, the echo boom (i.e., the children of the Baby Boom) has resulted in a swelling of the adolescent population (U.S. Census Bureau, 2007), which, given the age patterns of crime, has consequences for the delinquency rate and its associated policy and criminal justice responses (O'Brien & Stockard, 2008). These historical considerations illustrate how—across nations and cultures—developmental processes are embedded in the broader currents of history. In linking adolescence to other life stages, therefore, such historical embeddedness has to be taken seriously (see Elder, 1980, for an earlier discussion on adolescence in historical context).

Linking Adolescence to Childhood and Adulthood

In the last ten years, discussions about policies and programs on education, health, and other key domains of inequality in the U.S. have increasingly shifted away from adolescence to

target childhood. Although largely centering on intervention, this same trend also has theoretical import (Ludwig & Sawhill, 2007). It is exemplified by the arguments of economists (e.g., Heckman, 2006) that public investments in early childhood bring greater long-term returns than investments in adolescence. On one level, this growing emphasis on childhood relative to adolescence might be viewed as a threat to the status of research on adolescence. Yet, it can also be viewed another way—as a call for more research on the links between childhood and adolescence that enable a maximization of early investments, and of early experiences more generally (or a counterbalancing to a lack of early investments and experiences).

Social changes over the last several decades have also dramatically changed the transition from adolescence into young adulthood, and such change is reflected in policy discussions about key aspects of this transition (e.g., access to and affordability of higher education, the potential role of non-marriage in poverty). As the manufacturing sector has given way to a service and information economy, jobs providing steady working-class incomes and benefits have been disproportionately replaced by low-paying, unstable, jobs without benefits (Morris & Western, 1999). Access to more secure and rewarding careers has increasingly required higher education. Indeed, wages for non-college graduates have dropped substantially, resulting in rising relative returns to a college degree (Lemieux, 2006). Although adolescents and their parents are keenly aware of this trend and now almost universally aspire to earn college degrees (Schneider & Stevenson, 1999; Bachman, Johnston & O'Malley, 2008), college enrollment and graduation rates have not kept pace (Snyder, Dillow & Hoffman, 2008). That attainment has not increased more dramatically given the rising returns to and aspirations for college degrees reflects, in part, waning public financial support for higher education. Specifically, tuition has risen substantially as tax dollars have paid less and less of the cost of education, and the real value of financial aid options such as Pell Grants has eroded (Kane, 2007).

In this changed landscape, young people are staying in school longer and marrying later, remaining in a semi-dependent state during young adulthood in ways once associated with late adolescence. Moreover, for those who do not pursue higher education or start, but do not complete, their degrees, the U.S. offers little institutional support for transitioning into the labor force (Kerckhoff, 2002). Parents, especially those with more resources, increasingly support their children through this period financially and otherwise (Schoeni & Ross, 2005). Such changes, reflected in contemporary discussions of "extended adolescence," "delayed adulthood," and "emerging adulthood," have profound implications for what preparedness for adulthood now entails as well as what policies aimed at "successful" transitions into adulthood need to address.

Research on adolescence has long been motivated by the need to elucidate the implications of this stage for adulthood as well as its role as an endpoint of childhood. Fortunately, the last decade has witnessed substantial progress in understanding both issues.

Educational Success

The educational system offers a clear example of the growing theoretical and policy focus on childhood and the importance of incorporating linkages between childhood and adolescence into this focus. For decades, research on K-12 educational inequality was disproportionately concerned with secondary schooling, but the last decade has witnessed a renewed interest in the early origins of the well-documented cognitive and academic disparities in secondary school and, in turn, a greater appreciation of the years surrounding the start of formal schooling as a critical period in such disparities (Entwisle, Alexander, & Olson, 2005; Pianta, Cox, & Snow, 2007). The refinement of theoretical models of education and related empirical evidence has fueled a major policy agenda across the U.S.

supporting publicly funded pre-school and other forms of early educational enrichment (Fuller, 2007).

Yet, the pioneering work of Entwisle, Alexander, and colleagues that greatly shaped this research activity has, as the children of their Baltimore sample have grown up, demonstrated that holistic life course approaches to educational inequality across childhood and adolescence can shed more light on the child-environment transactions underlying such inequality than a focus on childhood or adolescence alone. For example, a clear picture emerging from their two-decade study is that socioeconomic disparities in children's school readiness set in motion accumulating differences in schooling experiences that eventually result in lower levels of ability and academic competence at the start of high school. Those differences in academic skills then translate into differential curricular locations in high school that are key determinants of high school dropout and college enrollment (Alexander, Entwisle, & Olson, 2007). In other words, differences in long-term educational trajectories can be traced to the transition into primary schooling itself, but the impact of disparities at that time work in conjunction with transitions to middle and high school during the adolescent years to have their full impact.

Another research program, focused on how schooling is combined with paid work, has similarly elucidated connections between adolescence and young adulthood, also with critical implications for educational attainment. It also exemplifies the role of individuals in their own development. Research by Mortimer and colleagues (e.g., Mortimer & Johnson, 1999; Staff & Mortimer, 2007; 2008) shows that patterns of employment and educational investment during high school are relevant beyond the debates about time use and risk behavior focused on adolescence. These patterns, defined by combinations of paid work duration (months of employment) and intensity (hours worked when employed) during high school, persist into the post-high school years and predict the completion of a Bachelor's degree. The nature of these relationships, as described below, is complex.

For example, Staff and Mortimer (2007, 2008) argue that adolescents follow different strategies of human capital accumulation as early as high school. One strategy involves pursuit of higher education through a combination of schooling and steady, moderate employment. Having learned to balance school and work during high school, many youth are able to follow a path that continues this effective time management while in college. A pattern of steady work across the high school and college years has an even bigger impact on adolescents in weaker academic positions—those with fewer academic resources to draw on in their pursuit of a Bachelor's degree. Consistent with what we know of many processes of inequality, these critical adolescent patterns are class-differentiated, with disadvantaged students less likely to follow the moderate steady work pattern. When disadvantaged students manage to balance school and work in this way, however, the payoffs in educational attainment are even greater. This pattern of balance between work and schooling is very different and has different consequences than the less planful work-school churning in young adulthood that tends to undermine the social mobility of disadvantaged youth (Bernhardt, Morris, Handcock, & Scott, 2001).

In line with a key theme of this essay, we also argue that an understanding of educational success, especially as it is manifested across adolescence and into adulthood, increasingly requires that we attend to the historical context of the adolescents' lives we seek to understand. Indeed, the role of social change needs to be examined itself. Changes in the institutions of the labor market and postsecondary education are altering some of our longheld understandings. Educational expectations, for example, have long been considered a key mechanism through which socioeconomic background influences adult socioeconomic attainment. Recent cohort comparisons, however, show that educational expectations are

less strongly connected to social class than they once were (Schneider & Stevenson, 1999; Goyette, 2008). Moreover, Reynolds and colleagues (2006) recently reported that the positive association between educational expectations and educational attainment weakened across the high school classes of 1972 to 1992. Thus, educational expectations no longer have the predictive power they once did either. As goals for earning a college degree have become more universal and expectations for attending graduate school have become dramatically more common, the observed links among social origins, child/adolescent educational expectations, and adult socioeconomic attainment are changing, opening up new lines of inquiry for adolescence researchers.

Puberty

Not surprisingly, given the symbolic importance of puberty as a life course marker, issues of puberty and pubertal timing have long been a central focus of research on adolescence, including this decade (Ellis, 2004). Although viewed as an adolescent experience, it actually is part of an often prolonged life course process connecting childhood to adolescence and adolescence to young adulthood. As such, the declining age of puberty in the U.S. is significant, in that it could very well lead to a reconceptualization of what adolescence is and when in the life course the boundaries between childhood and adolescence are set (Herman-Giddens 2007). In this context, two influential but largely disconnected literatures related to pubertal timing, one concerning the antecedents of puberty and the other concerning the consequences, should be viewed together.

Within the complex interplay of biology and environment that sets the start of puberty, family adversity—including instability in parents' relationships—has been identified as a fairly consistent accelerator of pubertal timing (Belsky, Steinberg, Houts, Friedman, DeHart, Cauffman, Roisman, Halpern-Felsher, Susman, & the NICHD Early Child Care Research Network, 2007). Turning from antecedents to consequences, the many developmental problems associated with early pubertal timing for girls (e.g., risky sex, substance use) are well-documented. Included in this phenomenon are a range of academic troubles that, given the highly cumulative nature of the American educational system, have potential to translate short-term behavioral disruptions into long-term life course disadvantages. For example, work by Cavanagh, Riegle-Crumb, & Crosnoe (2007) with the National Longitudinal Study of Adolescent Health (Add Health) echoes the educational work described above in that it demonstrated how the temporary disruptions of early puberty during middle school can negatively affect adolescents' high school starting points in ways that are difficult to reverse. The result is a lower end-of-school academic standing for early maturing girls years after the pubertal transition is complete. Connecting these literatures suggests how puberty during adolescence can link family disadvantages in childhood to socioeconomic disadvantages in adulthood in the U.S., echoing previously reported links between adolescence and adulthood in Sweden (Magnusson & Cairns, 1996). This possibility needs to be studied more explicitly.

The links between pubertal timing and relationship experiences also indicate the great potential for developing better understandings of continuity and change by taking a cross-stage view. For example, other analyses with the Add Health sample indicate that early maturing girls are more involved in romantic relationships and make earlier transitions to sex than later maturing girls (Cavanagh, 2004; Haynie, 2003). These romantic and sexual experiences in adolescence in turn anticipate the family formation processes that occur in young adulthood, with strong implications for well-being and status attainment. Adolescents involved in romantic relationships in high school, particularly ones involving sex, are more likely to form unions (cohabit or marry) in early adulthood; those who experienced nonromantic sexual relationships are more likely to cohabit in early adulthood, but are not more likely to marry (Raley, Crissey & Muller, 2007).

Pubertal timing is not only associated with the formation of romantic and sexual relationships in adolescence. It may also combine with these experiences to affect other long-term outcomes for youth, as has been shown for trajectories of depression across adolescence into young adulthood (Natsuaki, Biehl, & Ge, 2009). Romantic relationships in adolescence offer the opportunity to develop skills useful for forming committed relationships later and provide practice managing multiple social roles that include boyfriend/girlfriend, but they also pose concurrent and long-term risks depending on the development of the adolescent in question and the contexts in which he or she comes of age (Furman & Shaffer 2003). Future research efforts should include studying these cross-stage trajectories and their contexts.

Problem Behavior

The value of taking a life course contextual view of adolescence is also readily apparent in the study of problem behavior, the constellation of proscribed, unhealthy, or dangerous behaviors in which many adolescents engage that includes delinquency, aggression, and substance use. Several studies have tracked behavioral problems from childhood into adolescence, illuminating developmental continuities and discontinuities and contextualizing adolescent problem behavior. As one example, Cote, Vaillancourt, LeBlanc, Nagin, and Tremblay (2006) identified the basic developmental pathways of aggression from early childhood to the start of adolescence in a sample of Canadian youth, with the modal pathway involving moderate aggressive behavior among toddlers that eventually fades by the transition into adolescence. This approach provides the context for understanding the meaning and seriousness of aggressive behavior during adolescence. As just one example, it suggests that non-desistance or upticks in physical aggression at the beginning of adolescence may signal significant adjustment problems in need of attention.

Longitudinal studies of problem behavior have also revealed important insights into the genetic underpinnings of adolescent behavior. Burt and Neiderhiser (2009), for example, reported a dramatic increase in the genetically heritable components of delinquency across adolescence in another Canadian sample. Their interpretation of this pattern is that it reflects the increasing self-selection of young people into contexts and settings that validate and reinforce their genetic proclivities towards (or against) problem behavior. Although the window of their study did not include childhood, their conclusions highlight the importance of studying problem behavior—and its many determinants, including genes, environment, and the interaction between the two—from childhood into adolescence. When does that self-selection (whether related to genetics or not) decrease as young people age into and through adolescence?

Studies that track problem behavior from adolescence into adulthood have also contributed tremendously to the understanding of behavioral continuity and change. The same level of substance use at one or even multiple points in time may be embedded within distinctly meaningful trajectories. Studies based on panel data from the Monitoring the Future Surveys, for example, relate trajectories of substance use to the pathways adolescents navigate into adulthood, defined by college attendance, living away from parents, employment, marriage, and parenthood (Schulenberg, O'Malley, Bachman, and Johnston, 2005). Adolescent levels of substance use do foretell to some degree the overtime patterns of use, but discontinuities are also apparent, with differential change associated with the aforementioned transition pathways. In addition to affirming the importance of these adult transition patterns (and their configurations) to substance use in young adulthood, these findings clearly illustrate that substance use trajectories that are rooted in earlier developmental stages can both anticipate future life course transitions and be modified by such transitions.

The long view also enables us to build a better understanding of the proximate causes of adult outcomes associated with adolescent substance use. Do they follow from continued use itself or from academic, social, or economic consequences set in motion in adolescence or early adulthood? Underscoring again the importance of historical context, the very prevalence of a behavior such as alcohol or marijuana use may condition the effect it has on adjustment (Schulenberg, Maggs, & O'Malley, 2003). Recent developments in adolescence-focused neuroscience also offer other avenues of synergy in this line of research. For example, normative declines in risk-taking in young adulthood seem to reflect the development and refinement of self-regulation capacities facilitated by changes in the prefrontal cortex during the late teens and early twenties (Dahl & Spears, 2008; Steinberg, 2008). Research on trajectories of substance use and problem behavior, therefore, represent an ideal opportunity to study the links among cognitive and physiological development, social development, and historical change.

The Easing of Practical Constraints

Longitudinal data sets that link multiple stages of the life course, both national and local, have become more available over the past 40 years, especially abroad (Elder & Giele, 2009). Great Britain, for example, now has four national longitudinal cohorts that begin with the earliest years of childhood and will eventually extend across the life course. National studies linking more than two stages have been less common in the U.S., although local data collections, such as the Beginning School Study (Entwisle et al., 2005) and the Minnesota Study of Risk and Adaptation (Sroufe, Egeland, Carlson & Collins, 2005), have provided opportunities for linking childhood, adolescence, and young adulthood. Despite such resources, we might argue that the adoption of a perspective on "adolescence within the life course" has been constrained by the inadequate availability of data sets that extend from childhood to the adult years rather than by a lack of theoretical interest on the part of adolescence scholars.

Nationally representative panel studies that follow adolescents into adulthood in the U.S. have been available for some time. These include the National Longitudinal Studies, the National Youth Survey, High School and Beyond, the National Education Longitudinal Study (and the more recent Education Longitudinal Study), Monitoring the Future, and Add Health. Similar studies starting in childhood are rarer. Still, the nationally representative Kindergarten Cohort of the Early Childhood Longitudinal Study (ECLS-K) has recently been followed-up during middle school, and the birth cohort for the nine-state NICHD Study of Early Child Care and Youth Development has now exited high school. Moreover, nonpublic use data sets are increasingly taking cross-stage approaches, such as the Longitudinal Immigrant Study Adaptations (LISA) Study (see Suarez-Orozco & Todorova, 2008). Methodological advances, particularly in longitudinal modeling, have continued, such that when appropriate data is available, we have a solid toolkit with which to examine issues of timing and duration, continuity and change, and trajectories and pathways (e.g., Wu 2003; Little, Card, Preacher, & McConnell, 2009). Thus, the practical constraints on life course approaches to studying adolescence appear to be easing as we move into the next decade. In other words, the data are catching up to the theoretical and methodological sophistication already apparent in the field.

Importantly, a view of adolescence within the life course has an important contribution to make even when available samples do not extend downward from adolescence and/or upward into the adult years. The life course framework locates research foci within the developmental and contextual dynamics of the life course. The analyst, therefore, is sensitized to pathways from childhood that generate behaviors in adolescence and to some of their pathways and consequences in the post-adolescent years. For example, adult role options could become a very real part of a study that investigates the aspirations of high

school youth, even when the data set does not reach into the adult years. Thus, thinking about adolescence within the larger life course refines the questions that we can ask about adolescence itself.

Conclusion

In this essay, we have argued that the study of "the second decade of life" is better informed when we locate it within the life course. By doing so, we enhance an understanding of adolescence, the life course more generally, and the developmental processes that connect the two. Unfortunately, although the life course paradigm has clearly influenced ways of thinking about and studying adolescents, most research projects continue to be overly focused on the teenage years in isolation.

In the coming decade, therefore, research on adolescence would benefit from a more concerted effort to view adolescence within the context of the full life course, by theorizing about and then empirically studying transactions among childhood, adolescence, and adulthood. Such an endeavor will be facilitated by the "coming of age" of quantitative and mixed methods data sets with child and adolescent samples in U.S. and internationally as well as by the continued refinement of longitudinal analytical strategies (Wu 2003;Little et al. 2009).

As we have argued here, taking a longer view of adolescence allows adolescence scholars to better see the complex mutual selection of person and context—that which occurs through the interplay of environment and biology and also through the agentic strivings of adolescents. It enables us to better identify the mechanisms of continuity and discontinuity, and it makes visible when transitions in childhood, adolescence, and adulthood work in conjunction with one another. In doing so, however, we cannot ignore that the social ties that help to define adolescence connect adolescents to significant others who themselves often occupy other life stages. For example, evidence suggests associations with older teens helps to explain many of the behavioral risks of early pubertal timing among girls (Cavanagh 2004), that adolescent boys becoming friends with men who are in young adulthood is a mechanism explaining the link between neighborhood disadvantage and adolescent violence (Harding, 2000), and that resource allocation from parents to adolescents is much stronger when parents are older, even when socioeconomic status is controlled (Powell, Steelman, & Carini, 2006). Thus, understanding adolescence requires linking adolescence to other life stages within the individual as well as across individuals.

We also argue here that understanding adolescence within the life course requires attention to historical context. As the historical record shows, the social, economic, and cultural aspects of adolescence have varied substantially across successive birth cohorts over the past 30 years in the United States. Young people born during the recessionary years of the early 1980s experienced a booming economy at high school graduation, unlike the experiences of those who were born several years before or later. The scarcity of job opportunities for high school and college graduates today will most likely be replaced by more abundant job opportunities for young people entering young adulthood in the coming decade. These socioeconomic variations tend to leave their mark on the life course as well as on the psyche of young people. The challenge for studies of adolescents in the future will be to incorporate such historical conditions into theoretical and empirical models rather than merely referring to them as contextual background. In other words, we need to directly query how changing circumstances have altered the development of young people.

By necessity, we have only highlighted a few examples of the insights that can be achieved by viewing adolescence within the life course. With the foundations in place, we look

forward to the next decade of research, which will deepen our knowledge and understanding of adolescence and of young people in the life course within a rapidly changing world.

Acknowledgments

Support for Crosnoe came from a faculty scholar award from the William T. Grant Foundation as well as a center grant to the Population Research Center at the University of Texas at Austin from the Eunice Kennedy Shriver National Institute of Child Health and Human Development (R24 HD042849, PI: Mark Hayward). We also acknowledge support from the Spencer Foundation for a Senior Scholar Award to Elder.

References

- Alexander K, Entwisle D, Olson L. Lasting consequences of the summer learning gap. American Sociological Review. 2007; 72:167–180.
- Bachman, JG.; Johnston, LD.; O'Malley, PM. Monitoring the future: Questionnaire responses from the nation's high school seniors. Ann Arbor, MI: Institute for Social Research; 2008.
- Belsky J, Steinberg LD, Houts R, Friedman S, DeHart G, Cauffman E, Roisman G, Halpern-Felsher B, Susman E. the NICHD Early Child Care Research Network. Family rearing antecedents of pubertal timing. Child Development. 2007; 78:1302–1321. [PubMed: 17650140]
- Bernhardt, A.; Morris, M.; Handcock, MS.; Scott, MA. Divergent paths: Economic mobility in the new American labor market. New York: Russell Sage; 2001.
- Burt SA, Neiderhiser JM. Aggressive versus nonaggressive antisocial behavior: Distinctive etiological moderation by age. Developmental psychology. 2009; 45:1164–1176. [PubMed: 19586186]
- Cavanagh S. The sexual debut of girls in early adolescence: The intersection of race, pubertal timing, and friendship group characteristics. Journal of Research on Adolescence. 2004; 14:285–312.
- Cavanagh SE, Riegle-Crumb C, Crosnoe R. Puberty and the education of girls. Social Psychology Quarterly. 2007; 70:186–198. [PubMed: 20216926]
- Côté S, Vaillancourt T, LeBlanc JC, Nagin DS, Tremblay RE. The development of physical aggression from toddlerhood to pre-adolescence: A nation wide longitudinal study of Canadian children. Journal of Abnormal Child Psychology. 2006; 34:68–82.
- Dahl RE, Spear LP. Adolescent brain development: Vulnerabilities and ppportunities. Annals of the New York Academy of Science. 2004; 1021:1–22.
- Dragastin, S.; Elder, GH, Jr. Adolescence in the life cycle. Washington, DC: Hemisphere; 1975.
- Elder, GH, Jr. Adolescence in historical perspective. In: Adelson, Joseph, editor. Handbook of adolescent psychology. New York: Wiley; 1980. p. 3-31.
- Elder, GH., Jr; Giele, JZ. The craft of life course research. New York: Guilford Press; 2009.
- Elder, GH., Jr; Johnson, MK.; Crosnoe, R. The emergence and development of life course theory. In: Mortimer, J.; Shanahan, M., editors. Handbook of the Life Course. New York: Plenum; 2003. p. 3-22.
- Ellis B. Timing of pubertal maturation in girls. Psychological Bulletin. 2004; 130:920–958. [PubMed: 15535743]
- Entwisle D, Alexander K, Olson L. First grade and educational attainment by age 22: A new story. American Journal of Sociology. 2005; 110:1458–1502.
- Fuller, B. Standardized childhood: The political and cultural struggle over early education. Palo Alto, CA: Stanford University Press; 2007.
- Furman, W.; Shaffer, L. The role of romantic relationships in adolescent development. In: Florsheim, P., editor. Adolescent romantic relationships and sexual behavior. Mahwah, NJ: Lawrence Erlbaum Associates; 2003. p. 3-22.
- Goldin, C.; Katz, LF. The race between technology and education. Cambridge, MA: Harvard; 2008.
- Goyette KA. College for some to college for all: Social background, occupational expectations, and educational expectations over time. Social Science Research. 2008; 37:461–484. [PubMed: 19069055]
- Harding DJ. Violence, older peers, and the socialization of adolescent boys in disadvantaged neighborhoods. American Sociological Review. 2009; 74:445–464. [PubMed: 20161350]

Haynie DL. Contexts of risk: Explaining the link between girls' pubertal development and their delinquency involvement. Social Forces. 2003; 82:355–397.

- Heckman J. Skill formation and the economics of investing in disadvantaged children. Science. 2006; 312(5782):1900–1902. [PubMed: 16809525]
- Herman-Giddens ME. The decline in the age of menarche in the United States: Should we be concerned? Journal of Adolescent Health. 2007; 40:201–203. [PubMed: 17321418]
- Kane, Thomas J. Public intervention in postsecondary education. In: Hanushek, E.; Welch, F., editors. Handbook of the economics of education. Amsterdam: Elsevier Science; 2007.
- Kerckhoff, A. The transition from school to work. In: Mortimer, JT.; Larson, RW., editors. The changing adolescent experience: Societal trends and the transition to adulthood. Cambridge, UK: Cambridge University Press; 2002. p. 52-87.
- Lemieux T. Postsecondary education and increased wage inequality. American Economic Review. 2006; 96:195–199.
- Little, TD.; Card, NA.; Preacher, KJ.; McConnell, E. Modeling longitudinal data from research on adolescence. In: Lerner, RM.; Steinberg, L., editors. Handbook of adolescent psychology. 3rd ed.. New York: Wiley; 2009. p. 15-54.
- Ludwig, J.; Sawhill, I. Success by ten: Intervention early, often, and effectively in the education of young children. Washington, DC: Brookings; 2007.
- Magnusson, D.; Cairns, RB. Developmental science: Toward a unified framework. In: Cairns, RB.; Elder, GH., Jr; Costello, EJ., editors. Developmental Science. New York: Cambridge University Press; 1996.
- Morris M, Western B. Inequality in earnings at the close of the twentieth century. Annual Review of Sociology. 1999; 25:623–657.
- Mortimer, JT.; Johnson, MK. Adolescent part-time work and post-secondary transition pathways: A longitudinal study of youth in St. Paul, Minnesota. In: Heinz, Walter, editor. From Education to Work: Cross National Perspectives. New York: Cambridge University Press; 1999. p. 111-148.
- Natsuaki MN, Biehl MC, Ge X. Trajectories of depressed mood from early adolescence to young adulthood: The effects of pubertal timing and adolescent dating. Journal of Research on Adolescence. 2009; 19:47–74.
- O'Brien R, Stockard J. Can cohort replacement explain changes in the relationship between age and homicide offending? Journal of Quantitative Criminology. 2008; 25:79–101.
- Pianta, RC.; Cox, M.; Snow, K. School readiness and the transition to kindergarten in the era of accountability. Baltimore, MD: Brooks; 2007.
- Powell B, Steelman LC, Carini RM. Advancing age, advantaged youth: Parental age and the transmission of resources to children. Social Forces. 2006; 84:1359–1390.
- Raley RK, Crissey S, Muller C. Of sex and romance: Late adolescent relationships and young adult union formation. Journal of Marriage and Family. 2007; 69:1210–1226. [PubMed: 20221420]
- Reynolds J, Stewart M, Sischo L, McDonald R. Have adolescents become too ambitious? High school seniors' educational and occupational plans, 1976–2000. Social Problems. 2006; 53:186–206.
- Schneider, B.; Stevenson, D. The ambitious generation: America's teenagers, motivated but directionless. New Haven: Yale University Press; 1999.
- Schoeni, RF.; Ross, KE. Material assistance from families during the transition to adulthood. In: Settersten, RA., Jr; Furstenberg, FF., Jr; Rumbaut, RG., editors. On the frontier of adulthood: Theory, research and public policy. Chicago: University of Chicago Press; 2005. p. 417-453.
- Schulenberg, JE.; Maggs, JL.; O'Malley, PM. How and why the understanding of developmental continuity and discontinuity is important: The sample case of long-term consequences of adolescent substance use. In: Mortimer, J.; Shanahan, M., editors. Handbook of the life course. New York: Plenum; 2003. p. 413-436.
- Schulenberg, JE.; O'Malley, PM.; Bachman, JG.; Johnston, LD. Early adult transitions and their relation to well-being and substance use. In: Settersten, RA., Jr; Furstenberg, FF., Jr; Rumbaut, RG., editors. On the frontier of adulthood: Theory, research and public policy. Chicago: University of Chicago Press; 2005. p. 417-453.
- Settersten, RA.; Furstenberg, FF., Jr; Rumbaut, RG. On the frontier of adulthood: Theory, research and public policy. Chicago: University of Chicago Press; 2005.

Shanahan, Michael J.; Macmillan, Ross. Biography and the sociological imagination: Contexts and contingencies. New York: WW Norton & Co.; 2008.

- Snyder, TD.; Dillow, SA.; Hoffman, CM. Digest of education statistics 2007. Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education; 2008. (NCES 2008-022)
- Sroufe, LA.; Egeland, B.; Carlson, EA.; Collins, WA. The development of the person: The Minnesota Study of Risk and Adaptation from Birth to Adulthood. New York: Guilford Press; 2005.
- Staff J, Mortimer JT. Educational and work strategies from adolescence to early adulthood: Consequences for educational attainment. Social Forces. 2007; 85:1169–1194.
- Staff J, Mortimer JT. Social class background and the school-to-work transition. New Directions for Child and Adolescent Development. 2008; 119:55–69. [PubMed: 18330914]
- Steinberg LD. A social neuroscience perspective on adolescent risk taking. Developmental Review. 2008; 28:78–106. [PubMed: 18509515]
- Steinberg LD, Morris AS. Adolescent development. Annual Review of Psychology. 2000; 52:83-100.
- Suarez-Orozco, C.; Suarez-Orozco, M.; Todorova, I. Learning a new land: Immigrant students in American society. Cambridge, MA: Harvard University Press; 2008.
- U.S. Census Bureau. Current Population Survey reports: School enrollment. 2007. www.census.gov/population/www/socdemo/school.html
- Wu, LL. Event history models for life course analysis. In: Mortimer, JT.; Shanahan, MJ., editors. Handbook of the Life Course. New York: Kluwer Academic/Plenum Publishers; 2003. p. 477-502.