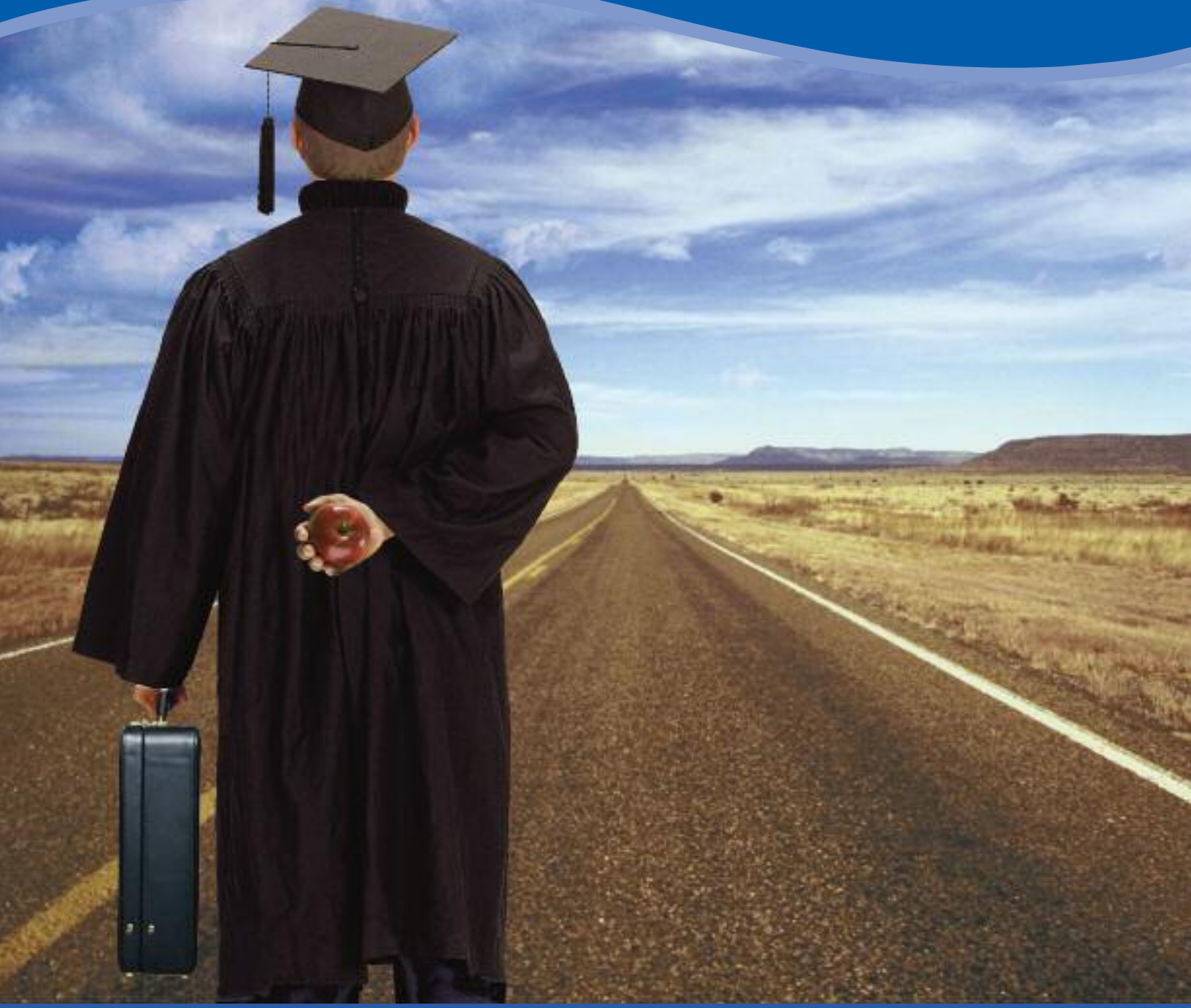
A Developmental Perspective on College & Workplace Readiness



Child Trends

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Executive Summary

This report provides a developmental perspective on what competencies young people need to be ready for college, the workplace, and the transition to adulthood. National hand-wringing about the lack of preparedness of high school graduates for college and the workplace has catalyzed researchers, educators, and policymakers to define the skills and competencies students need in order to be successful. These prescriptions tend to focus *either* on college readiness *or* on workplace readiness. At the same time but on a separate track, youth development research has identified the assets that youth need in order to make a successful transition to adulthood. Presumably, these three groups of competencies should overlap.

Do high school students need the same competencies in order to be ready for college, the workplace, and a healthy transition to adulthood? If so, is there agreement on what competencies are needed? If not, how do the necessary competencies differ across these three areas of life? Are there some competencies which are emphasized for healthy youth development which could be usefully applied to remedy gaps in college and workplace readiness, and vice versa?

This report seeks to widen the road to success for high school students. It also provides a sense of the degree to which research in each field indicates a need for each competency. The competencies needed are organized into five domains of youth development: physical, psychological, social, cognitive, and spiritual. A chart of competencies is found on page 32.

Because certain groups of students have particular challenges in being successful, this report also focuses on strategies that have proven helpful for groups that face greater challenges in meeting the readiness criteria for college, the workplace, and the transition to adulthood. These include low-income and minority students, Latinos and English language learners, students with disabilities, disconnected youth, youth aging out of foster care, and sexual minority youth.

Comparing Competencies Across Domains and Fields

To what extent does the research on healthy youth development, workplace readiness, and college readiness agree, and where do they disagree?

- For *physical development,* research on healthy youth development shows strongly and the workplace readiness literature agrees weakly that developing healthy habits and avoiding risk behaviors are necessary competencies. Physical safety is emphasized less strongly in the research in both these fields. The college readiness literature does not address the physical domain at all; in this literature, having healthy habits and avoiding risk behaviors are not considered necessary for students to be ready for college.

- For *psychological development*, agreement exists across the three fields on a number of competencies. Research in each field strongly supports the importance of high expectations. Related to that competency is goal setting accompanied by appropriate and effective plans; this is emphasized less strongly in the youth development and workforce readiness research than in the college readiness research. Self-management and learning and motivational strategies are strongly supported across the board, and self-esteem is more weakly supported in all three areas of research. Positive mental health is vital to healthy development in young adults, yet this competency is not emphasized for college or workplace readiness. Resilience and flexibility are emphasized frequently in youth development and less so in the work place readiness fields, but again, these skills are not considered essential for college readiness. A strong work ethic is key to workplace readiness, including conscientiousness, reliability, professionalism, honesty, punctuality/timeliness, and good

attendance, yet these are not generally considered skills needed to be ready for college.

- For *social development,* social competence emerges as the most visible quality needed for success across all fields, although it is considered less important in the college readiness research. The related competencies of conflict resolution, acting appropriately for the context, and cross-cultural competence receive a lot of attention as well. In addition, communication skills receive support across the three fields, although at varying levels. A strong moral character—which is variously defined as having ethical principles, values, integrity, and a social conscience—is widely considered essential for healthy youth development , is less emphasized in the workplace readiness literature, and does not appear at all as a college readiness attribute.
- For *cognitive development,* the three areas of research show unanimous support for critical thinking and reasoning skills, and, to a lesser degree, for problem solving skills and lifelong learning skills. Support for the need to attain a high school diploma or other credential is surprisingly mixed, ranging from very strong for college readiness to weak for youth development. High academic achievement in high school is critical for college readiness, but not necessarily for many jobs since employers often look for other evidence of workplace readiness, such as previous work experience. Creativity is highly valued in the workplace, but it is not emphasized in college readiness criteria.
- For *spiritual development,* only the youth development field considers spirituality, a sense of purpose, and religiosity as developmental assets. The college readiness and the workplace readiness fields do not address this area of development.

Meeting the Needs of Special Populations

Similar themes are found among the psychological, social, and cognitive competencies needed by students who face challenges, such as low-income and minority, English language learner, immigrant, disabled, disconnected, foster, and sexual minority youth.

Among the psychological competencies noted, having high expectations and aspirations for education and career goals is particularly important among at-risk populations, as is a strong identity and self concept. These psychological assets are often fostered in the home, but schools and mentors can be effective in furthering them or encouraging them to grow when they have been absent. While optimism and hope certainly help youth have the will to overcome adversity, young people also need to know the specific steps that are necessary to improve their chances in life. The ability to plan and to carry out those plans are key competencies that lead to postsecondary education and workforce readiness. Yet these are not skills that are typically taught directly by schools, although they could be. Learning strategies such as motivation, self-monitoring, and persistence are important in the development of cognitive skills, as is completing homework assignments and high school graduation requirements. Mentors can successfully model these strategies as well.

In the social skills area, the importance of social competence, relationships, and support from teachers, guidance counselors, and mentors is cited repeatedly for all of the special populations addressed. This was also the case for feeling connected to school and peers and to the world of work through internships and community service. Researchers suggest a number of ways that high schools can facilitate these connections. They include creating small personal learning environments for low-income and minority youth; providing gender- and culturally-specific counseling and teaching for minority males; setting up mentoring programs for low-income minority students; and improving college and career counseling, including sharing information on college costs and other hurdles to achieving goals. Research-based strategies also include linking stu-

dents to employers and colleges through direct experience; and providing support groups for foster youth and sexual minority youth.

In the cognitive domain, emphasis is put on appropriate coursework tailored to the needs of these populations. Specifically, low-income and minority youth need exposure to rigorous coursework and training in technology; and those who are not on the academic track need more vocational courses. English language learners need classes that are tailored to their English-speaking and academic abilities. Students with disabilities need classes in basic and social skills, as well as occupational courses. Disconnected and foster youth need training in social skills, as well as in life skills, so that they can be successful at living on their own, and as a complement to developing cognitive skills through any GED program in which they may be enrolled. However, research has demonstrated the long-term advantages of completing high school and earning a regular diploma, rather than earning a GED. It also shows that GED recipients often lack the social skills that employers value, suggesting that, for these populations, more emphasis needs to be placed on alternative programs that lead to the completion of a regular high school diploma and that incorporate social skill development.

Widening the Road to Success

Among the many implications of this crosswalk for facilitating successful transitions to adulthood, we highlight the following:

- College readiness criteria could be expanded to include healthy behaviors, avoiding risky behaviors, positive mental health, resilience, a strong work ethic and moral character, social competence, and creativity. The addition of these attributes would help youth prepare to optimize their success, healthy development, and experience in both college and the workplace.
- Workplace readiness criteria could be expanded to include positive mental health and resilience, as well as social support and having a sense of purpose to enable youth to be prepared for the fluctuations in the labor market and in their place of work.
- Healthy youth development criteria could expand to include specific communication skills needed by employers, in addition to the ability to reason. The importance of career planning, job search skills, and job experience to workplace readiness suggests that youth development criteria and programs would serve youth well by focusing on them.

Thus, there are many opportunities for high schools to serve youth better by expanding to include training in the competencies necessary for the development of the whole young person. If the scope of expectations for readiness continue to be limited to specific competencies which serve only college or the workplace, many youth will continue to struggle to make a successful transition to adulthood, and their full potential may not be realized.

Introduction

Despite sustained attention over the last few decades on the need to improve high school students' preparation for college and the workplace,[217,219] the nation continues to grapple with alarmingly low high school graduation rates [89,129] and an inadequately prepared workforce.[216] What's more, prescriptions of what students need to be successful are complicated by the tendency of researchers and policy makers to focus *either* on college readiness or on workplace readiness.

While some of the skills and competencies sought by educators and employers would presumably overlap, the two camps tend to inhabit separate worlds. The criteria for college readiness traditionally emphasize academic preparation—the subject matter expertise and cognitive skills students need to perform well *academically* in college. The education standards and testing and the college admissions communities develop these criteria. The criteria for workplace readiness are more likely to emphasize what *general* behaviors, skills, and competencies are needed to make good workers. Business and government leaders often develop these criteria and special commissions often articulate and promote them.

A separate arena of research and policy centers on healthy youth development, a field that traditionally falls under the purview of developmental psychologists and youth program providers who focus on developmental assets. The term "developmental assets" refers to those personal competencies, skills, behaviors, and qualities—as well as the connections and relationships—that foster healthy development across the areas of a young person's life and a successful transition to adulthood. College readiness and workforce readiness are perhaps the most salient outcomes that research and programs focused on developmental assets use as measures of success.

This paper applies the broader perspective of youth development to college and workplace readiness in order to understand where readiness discussions can be strengthened by what is known about healthy youth development more generally. It identifies where the fields agree, and where they diverge in their prescriptions. Do high school students need the same competencies in order to be ready for college, the workplace, and a healthy transition to adulthood? If not, how do the needs differ across these three areas of life? Are there some competencies which are emphasized for healthy youth development which could be usefully applied to remedy gaps in college and workplace readiness? What can be learned from youth development research that can be incorporated into programs to prepare high school students for success in postsecondary education and the world of work? Likewise, are there lessons from research on college and workplace readiness that can benefit youth through high school or other programs?

Ultimately, the point of this work is to widen the road map to success for high school students. Making successful transitions to college, work, and adulthood remains a vital concern for policy makers, educators, employers, program directors, parents, and especially youth. The existing stovepiped recommendations can benefit from a broader perspective of what our society needs our youth to be able to do.

Specifically this paper addresses: What is the intersection of skills, competencies, and assets needed for college, work, and the successful transition to adulthood? Both in the text and in an accompanying chart of competencies, the paper also provides a sense of the degree to which research literature in each field indicates a need for each competency. In order to compare across these three fields, like competencies have been placed together, although these competencies may be called by different names in each field, and there may be a different emphasis within the competency across fields. The competencies were then organized into developmental domains, described below. This structure makes it easier to perceive the intersection of each field's recommendations, as well as to see some surprising gaps.

In addition, the paper takes a closer look at some special groups that face greater challenges in meeting the readiness criteria for college and the workplace. These groups include low-income and minority students, Latinos and English language learners, students with disabilities, disconnected youth, youth aging out of foster care, and sexual minority youth. Finally, the paper highlights recommendations for ways that high schools can help students in these groups take the steps necessary to go on to college and enter the workforce.

To what extent does the research on healthy youth development, workplace readiness, and college readiness agree and where are there gaps that merit attention? Here, in capsule, is what Child Trends found:

- In the *physical domain,* research on healthy youth development shows strongly and the workplace readiness literature agrees weakly that developing healthy habits and avoiding risk behaviors are necessary. Physical safety is emphasized less strongly in the research in both these fields. The college readiness literature does not address the physical domain at all. Having healthy habits and avoiding risk behaviors is not considered necessary for students to be ready for college.
- In the *psychological domain,* agreement exists on a number of competencies. Research in each of the three fields strongly supports the importance of high expectations. Related to that competency is goal setting accompanied with appropriate and effective plans, which is emphasized less strongly in the youth development and workforce readiness research. Self-management and learning and motivational strategies are strongly supported across the board, and self-esteem is more weakly supported in all three areas of research. Positive mental health is vital to healthy development in young adults, yet this competency is not emphasized for college or workplace readiness. Resilience and flexibility are emphasized frequently in youth development and less so in the workplace readiness fields, but again, these skills are not considered essential for college readiness. A strong work ethic is key to workplace readiness, including conscientiousness, reliability, professionalism, honesty, punctuality/timeliness, and good attendance, yet these are not generally considered skills needed to be ready for college.
- In the *social domain,* social competence emerges as the most visible quality needed for success across all fields. The related competencies of conflict resolution, acting appropriately for the context, and cross-cultural competence receive a lot of attention as well. In addition, communication skills receive a mixed level of support across the three fields. A strong moral character—which is variously defined as having ethical principles, values, integrity, and a social conscience—is widely considered essential for healthy youth development and less widely for workplace readiness, but it is not appear as a college readiness attribute.
- In the *cognitive domain,* the three areas of research show unanimous support for the need for critical thinking and reasoning skills, and, to a lesser degree, for problem solving skills and lifelong learning skills. Support for the need to attain a high school diploma or other credential is surprisingly mixed, ranging from very strong for college readiness to weak for youth development. High academic achievement in high school is critical for college readiness, but not necessarily for many jobs since employers often look for other evidence of workplace readiness, such as previous work experience. Creativity is highly valued in the workplace, but it is not emphasized in college readiness criteria.
- In the *spiritual domain,* no agreement exists across areas of research. Spirituality, a sense of purpose, and religiosity are considered developmental assets, yet the college readiness research includes only one mention of spirituality, with no mention for workplace readiness.

Approach

Child development researchers have addressed the broad question of what general qualities are needed for a successful transition to adulthood. Whether various researchers call these qualities competencies, character strengths, assets, or skills, a broad consensus has emerged that possessing certain qualities enhances an individual's chances of moving successfully into adulthood. Researchers often number and group these qualities into categories that relate to different aspects of life. In the studies reviewed for this paper, the number of categories ranged from three to eight.

The next section summarizes the categories used in these studies and considers their applicability to the aim of this paper; that is, determining overlaps and gaps in the fields of healthy youth development, college readiness, and workforce readiness in their prescriptions for what high school students need to succeed in life. This summary is followed by a brief explanation of the way Child Trends will categorize the qualities needed across the three fields in later sections of this paper.

Selected Approaches to Healthy Development

Lickona and Davidson[138] identify eight strengths of character that are predictive of human flourishing over a lifetime. These strengths include being 1) a lifelong learner and critical thinker; 2) a diligent and capable performer; 3) a socially and emotionally skilled person; 4) an ethical thinker; 5) a respectful and responsible moral agent; 6) a self-disciplined person who pursues a healthy lifestyle; 7) a contributing community member and democratic citizen; and 8) a spiritual person engaged in crafting a life of noble purpose. Many of these eight "strengths" group together multiple strengths that are often perceived as deriving from distinct cognitive, behavioral, psychological, and emotional areas of development. One example would be combining cognitive skills with attitudes toward learning and ethics. Another would be combining observable behaviors, such as acting responsibly, with intrinsic values implied by being moral.

Applicability to this study: It would be more useful to keep these strengths separate in order to more precisely parse the strengths needed, and to more clearly identify whether distinctions or commonalities exist across the three fields of investigation: youth development, college readiness, and workplace readiness. Keeping these areas distinct also has implications for the formation of strategies to enhance these strengths of character.

The Search Institute and the Social Development Research Group[14] have identified eight concepts of development needed for successful young adult development. They include 1) physical health; 2) psychological and emotional well-being; 3) life skills; 4) ethical behavior; 5) healthy family and social relationships; 6) educational attainment; 7) constructive engagement; and 8) civic engagement. The physical health, psychological and emotional well-being, and healthy relationship categories are domain-level categories, whereas the other categories refer to specific skills, attainments, or behaviors.

Applicability to this study: A framework for reviewing concepts would be most useful if skills were placed in groups at a comparable level of organization. In addition, educational attainment alone does not adequately represent the cognitive skills needed for college and workplace readiness.

The positive youth development movement conceptualizes six "C"s of youth development: 1) competence; 2) confidence; 3) connection; 4) character; 5) caring; and 6) contribution. The hypothesis behind this approach is that if young people manifests these Cs across time, they will be on a trajectory towards an "idealized adulthood" with integrated reinforcing contributions to self, family, community, and institutions of civil society.[134]

Applicability to this study: While these qualities, or variants of them, appear in the research on college and workplace readiness, many other positive qualities cited in this literature do not fit nicely within these six areas. Further, four of the Cs are oriented toward social competencies, and less oriented toward the individual competencies required to be successful in college and the

workplace, which is a less useful distribution for our purposes.

Erikson, as part of his research on identity formation among youth,[67,68] notes that successful development of the following characteristics leads to positive outcomes: 1) trust, which is linked to finding ideals in which to have faith; 2) autonomy and initiative, in order to explore career options; 3) industry, to select a vocation matching one's interests and skills; 4) identity crisis, or an exploration period marked by confusion and distress as one grapples with alternative values, plans, and goals; and 5) intimacy, which is needed for successful relationships and which is based on having a strong enough sense of self to risk sharing oneself with others.

Applicability to this study: These essential characteristics inform our exploration and are necessary but that they are not sufficient to encompass the requirements for workplace and college readiness, although they obviously are relevant to them.

Gambone et al.[83] identify a set of developmental markers that are linked to early adulthood success: 1) learning to be productive; 2) learning to connect; and 3) learning to navigate.

Applicability to this study: These categories are attractive in their succinctness and because they refer to behaviors that are easier to measure than are attitudes. Again, however, these categories are necessary but are not sufficient to encompass the qualities needed for college and workplace readiness, such as specific competencies, attitudes towards work and schooling, and self-management strategies. It is possible to be productive, to be connected with others, and to navigate well without having critical thinking skills or the motivation needed to master difficult material.

The Organization for Economic Cooperation and Development's project on Defining and Selecting Key Competencies for a successful life and a well-functioning society [185] has identified three broad categories of competencies needed to help individuals and societies cope with the complex demands and challenges of today's world. The broad categories of competencies include 1) acting autonomously; 2) using tools interactively; and 3) functioning in socially heterogeneous groups.

Applicability to this study: These competencies include within them important concepts for college and workplace readiness, such as assertiveness, planning, and relating well to others. However, these competencies are in addition to the essential domain-specific knowledge and skills in reading, writing, and calculating needed for success. Thus, these competencies cannot encompass all of the readiness skills that need to be considered in this study.

The National Research Council's panel on Community-Based Programs for Youth [59]—and other work led by Eccles that focused specifically on the transition to adulthood [57,60]—is most comprehensive in identifying the assets necessary to facilitate a successful passage into adulthood. This work identifies assets in four domains: 1) physical development; 2) intellectual development; 3) psychological and emotional development; and 4) social development. Further, this work emphasizes the importance of adolescents having assets in all four domains so that they can cope with and adapt to the tasks they face as they move into adulthood.

Applicability to this study: "School success" is included as an asset in the domain of intellectual development but the academic skills needed for college readiness are not specified to the extent necessary for this study.

Child Trends' Approach

Child Trends chose to build on the National Research Council (NRC) framework for categorizing the most important qualities needed for a successful transition to adulthood. The reason for this choice is that this framework appears to be based on the most comprehensive and rigorous research to date, building on the work of others. Moreover, the categories in this framework are consistent with the domains often used in research on child well-being indicators.[141] The NRC's inclusion of physical development is particularly useful, and this is often missing in the other frameworks reviewed but reflects the stress placed in the fields of youth development and the transition to adulthood on the importance of cultivating healthy habits and avoiding risk behaviors for successful development.[14,26,83,96,138]

The following alterations to the NRC framework are proposed for this study. In Child Trends' review of the research, the social and emotional development assets were more similar across the three fields of study than were the psychological and social assets, which are grouped together in the NRC framework. Consequently, psychological development is discussed separately and social and emotional competencies are grouped together under the new joint category "social development." This choice was in keeping with recent research stressing the relationship between socio-emotional competencies and academic achievement.[7,42,50,101,144,161]

The recent emergence of research identifying adolescence and emerging adulthood as critical times for the development of spirituality, related to the developmental tasks of identity development and the need for connection during these stages of life[212] suggests the need for a fifth category of competencies. Also, the NRC and research by others—including Damon,[51] Bridges and Moore,[23] Eccles,[56,58] and Lickona and Davidson[138]—have identified the importance of developing purpose or meaning in these stages of life. In addition, studies of religious youth find a positive relationship between religious involvement and belief and positive outcomes in youth and early adulthood.[15,23,51,141,191] Therefore, spirituality is added to the other domains for this study, combining the concepts of purpose, spirituality (in the sense of having a connection to a transcendent life force), and religiosity (which pertains to involvement with a specific religion, as distinct from spirituality).

Thus, Child Trends ends up with the following developmental domains by which to categorize and discuss the competencies needed for healthy youth development, college readiness, and workplace readiness: 1) physical development; 2) psychological development; 3) social development; 4) cognitive development; and 5) spiritual development. Readers will find it helpful to refer to the chart of key competencies within these domains (on page 32), which is aligned with the discussion, to visualize the congruence across the three fields and to get a sense of the strength of support in the research for each competency.

Physical Development

In the physical development domain, Child Trends includes the competencies of healthy habits, avoiding risk behaviors, physical security, and kinesthetic ability (that is, the ability to move with facility, coordination, and strength as is required in sports and dance). Research on healthy youth development has found that being healthy and making good decisions about health habits are important for positive youth development. Having good health and good health habits can lead to positive results for young people, such as reducing their risks of obesity and hypertension;[14] getting enough sleep, having a lower body-mass index (BMI), and having a positive body image;[96] and even reducing their chances of becoming disconnected; that is, disengaged from school, work, or military service.[93] Healthy habits include practicing good nutrition;[14] making good choices about sleep, diet, and exercise;[96] and being disciplined enough to pursue a healthy lifestyle.[138]

Despite what is known about the importance of establishing lifelong health habits during this stage of life,[14,96] the college and workplace readiness research reviewed did not mention physical health or healthy habits. Instead, this research concentrated on the academic and social skills necessary to succeed. There was one exception: in an international assessment of competencies, Trier [227] found that Swedish employers considered the ability to manage one's health as an important personal characteristic that they wanted their workers to have.

Youth development research shows that youth who avoid substance abuse, smoking, drinking, unsafe sexual practices, and violence have more positive and healthy outcomes—such as success in education and employment—than do youth who engage in such risk behaviors.[14,83,180] The college readiness research reviewed does not mention risk behaviors, despite evidence that college students abuse alcohol and drugs. For example:

- Results from the American College Health Association's National College Health Assessment survey, as reported by Weschler, [6] showed that in the fall of 2006, 33 percent of female students and 47 percent of male students reported drinking five or more alcoholic drinks in one sitting at least once during the past two weeks. That survey[6] also showed that 11 percent of female students and 16 percent of male students reported using marijuana at least once in the past month.
- Further, the Monitoring the Future national survey showed that nearly 51 percent of full-time college students in 2006 reported using illicit drugs.[112]

An international review of characteristics desired by employers shows that many countries do not place value on health competencies in relation to success at work. However, Trier[227] reports that in Sweden, employers considered avoidance of risk behaviors as a very important quality that they wanted their workers to have.

In 1943, Abraham Maslow developed a pyramid showing the needs that must be met to ensure proper development in childhood. The bottom of the pyramid shows the largest need, basic physical requirements. These include nutrition, health care, and decent living conditions. The next largest need is security, both physical and psychological.

More recent research by Eccles and Gootman[59] and Eccles et al.[58] shows that Maslow's pyramid is still relevant. They report that the places where youth spend their time must have adequate provisions for physical safety to support the development of personal assets that are linked to positive youth development. Such provisions for physical safety include safe facilities, safe peer group interactions, and practices that decrease confrontations among peers. Having such provisions can decrease physical dangers, the feelings of fear and insecurity, sexual and physical harassment, and verbal abuse.

Reviews of college readiness research again do not mention physical security. In the National Institute for Literacy's report on what adults need to know in the 21st century, a "Worker Role Map" was developed that detailed areas of responsibility effective workers need in order to succeed. The

report stated that work safety was necessary for success in the workplace, and noted that workers can actively assume this role by keeping up to date on workplace laws and regulations and making sure that they perform their jobs safely and conscientiously.[206]

Kinesthetic ability is one of the types of intelligences that need to be assessed, and is clearly related to some fields of study as well as to some occupations.[85 cited in 207] However, neither the college readiness nor workplace readiness literatures mention it. A recent report on youth outcomes recommends that assessments of physical strength be added to high school assessments to balance the emphasis on academics.[181]

Psychological Development

This section reviews the psychological assets, competencies, and skills that have been found to promote youth development, college readiness, and workplace readiness, respectively. The psychological assets show a high degree of congruence across the three fields.

Positive mental health is cited by developmental psychologists as a key concept associated with successful young adult development. The terms "psychological well-being" or "good mental health" are often used in lists of assets needed for healthy youth development.[14,58-60,83] Gambone et al.[83] include good mental health as a threshold indicator needed for optimal early adult outcomes after high school, along with supportive relationships with family and friends and good physical health. The researchers suggest that as long as two out of three of these indicators are present, and the individual is not at risk in the third, optimal levels of adult outcomes can be achieved.

While positive mental health is a generic term, the relatively new field of positive psychology is defining and measuring the more specific manifestations of the concept.[195] In particular, life satisfaction, which is a subjective global evaluation of the quality of one's life, appears to be a particularly strong component of positive mental health. Positive outcomes, including those related to education and work, are more likely to be attained by people who express satisfaction with their lives, all things being equal.[109]

Keyes[124] identifies two components of subjective well-being, which he calls "flourishing": positive feelings towards life, and positive functioning in life. Similar to the Diagnostic and Statistical Manual (DSM) model for diagnosing mental illness, Keyes introduces a measure with which to diagnose mental health, or flourishing, among adolescents: when a high level of at least one symptom of experiencing positive emotions is present, and just over one-half of the measures of positive functioning are present. He finds that subjective well-being is associated with school-related functioning, such as the perceived involvement in school, the perceived closeness to others, and the perceived level of math and reading skills.[124]

Whereas developmental psychologists consider positive mental health to be critical, the college and workforce literature reviewed made no mention of it as a component of being ready for college or the workforce. This finding appears surprising, given the rates of depression and suicide among college students. Results from the National College Health Assessment Survey (mentioned previously) showed that in the fall of 2006, 45 percent of female college students and 36 percent of male college students reported feeling so depressed that they found it difficult to function one or more times over the last 12 months, and 10 percent of female students and 9 percent of male students reported that they had seriously considered attempting suicide at least once over the last 12 months.[6]

High levels of depression and anxiety are also found in the workplace. For instance, 21 percent of highly overworked workers in a 2005 study exhibited high levels of clinical depression.[81] High schools and community programs could prepare students for their next stages of life by providing training and self-assessment tools and resources so that students could be informed and proactive in attaining and maintaining positive mental health when they are living independently and under stress in college and the workplace. Some colleges are beginning to assess students for psychological well-being upon entry. This practice also speaks to a need for assessments to begin in high school.

Positive self-esteem, self-regard, self-concept, or self-worth are often mentioned among assets needed for coping with and adapting to the tasks of emerging adulthood.[58,60,98,238] In reference to the evaluative school environment, Covington[46,47] emphasizes that belief in one's academic competence is necessary for a sense of positive self-worth and that academic self-concept, in particular, is linked with educational attainment.[173] Other studies mention the importance of self-esteem in the context of college readiness for youth with learning disabilities.[101] In the workplace readiness literature, the Secretary's Commission on Achieving Necessary Skills (SCANS) report[219,220] names self-esteem as an essential personal quality for the

workplace under the commission's foundational skills category for competent workers. Similarly, other research cites self-esteem as one of the necessary aspects of personal management.[37]

Related to self-esteem is a positive sense of identity. Erikson[67,68] recognized that identity formation was a major part of personality development in adolescence, contributing to a successful adult life. And more recent research includes nurturing a clear and positive identity as one of the goals of positive youth development.[41,60] Both positive identity and self-worth are components of the first "C" of positive youth development: confidence.[134] High rates of risk behaviors during the transition to adulthood can be seen as markers of identity exploration.[9] Evidence shows that schools and communities can foster identity development by providing opportunities for exploring interests, developing leadership, promoting high-level thinking, and obtaining vocational training.[16,192]

Optimism, hope, planfulness, and personal efficacy are distinct but related concepts that contribute to positive outcomes for youth.[14,60] Optimists tend to perform better in college and are more able to adapt to adverse events, because they see failure as limited to that one experience and not their fault.[177] However, optimism must be coupled with realism.[58,60] For example, a mismatch between high career aspirations and low expectations of actually reaching goals may be related to a higher likelihood that Latinos will fail to reach their aspirations.[43] Optimism about a career plan and resilience in the face of obstacles is linked to readiness to move from high school to work.[168]

Hope has been defined as the belief in one's ability to envision one's goals, along with the motivation and power to achieve them.[177,202] An Organization for Economic Cooperation and Development (OECD) report has identified the ability to form and conduct life plans and personal projects as a key competency for a successful life.[185] Similarly, other research has found that the assets of planfulness and confidence in one's ability to accomplish one's goals—as well as confidence in the future—are linked with developing positively in adolescence and coping with challenges of the transition to adulthood.[41,60]

In the college readiness literature, the markers of successful initiatives to increase college attendance are that they help students to acquire information on how to achieve their educational goals, to form realistic plans for college choice and occupational goals, and to identify strategies for achieving these goals.[226] Planful competence is the ability to negotiate the path to one's goals through thoughtful, assertive, and self-controlled choices. This ability has been found to be strongly related to how high school students function later in life, including their educational attainment, occupational attainment, and career stability.[197] It is well known that high academic expectations predict performance, courses taken, college attendance, and career aspirations among high school students, and that the expectations of high school staff and parents are linked to the likelihood that a high school student will attend college.[37,61,106,162,174]

When plans do not work out, however, resilience, coping skills, and flexibility are noted as key competencies in both the youth development literature and the international workplace readiness literature,[41,60,168,180,227] but not in the college readiness literature reviewed. The ability to make good judgments and decisions are also cited in the youth development literature[14,180] and in the workplace readiness literature,[39,204,206,219,220,232] but not in the college readiness literature.

Research on academic achievement has focused increasingly on learning strategies, and the identification and measurement of these strategies have proliferated. Learning strategies are an equally important focus in the research on healthy youth development and workplace readiness. Success in all three areas is often a result of consistent use of various learning strategies. Child Trends' review of the literature found that learning strategies—such as motivational control, emotion regulation, and attention control—are necessary for the successful development of cognitive competencies, e.g., academic achievement [(see 235)] and also for psychological competencies, e.g., mastery motivation and positive achievement motivation [(see 60, 54 cited in 61)]. In addition, research shows that self-monitoring, diligence, persistence, and motivation to learn are keys to college readiness and success.[42,172,178] Similarly, research has identified emotional intelligence,

self-management, autonomy, taking initiative and responsibility for new learning, and motivation to learn as soft skills that workers need.[37,204,206,219,220,227]

Finally, the workplace skills research area alone identifies a host of qualities under the broad category of work ethic, including, reliability, conscientiousness, honesty, professionalism, punctuality/timeliness, integrity, good attendance, effective decision making, and entrepreneurial initiative.[13,36,75,156,206,216,219,220,227] Surely, these same skills are important for achieving success in college, and yet they were not mentioned in the college readiness literature reviewed.

Social Development

This section reviews the social skills and competencies that have been identified as contributors to healthy youth development, as well as college and workplace readiness. Evidence is mounting that social skills help young people to develop cognitive skills and to achieve in school.[50,161] In the social development domain, as in the psychological development domain, quite a lot of congruence is found across fields in the competencies needed. However, the competencies emphasized tend to vary across fields.

A strong moral character is clearly a foundation for positive social interactions. The National Academy of Sciences[59] includes a strong moral character in the list of assets needed for young adult development. Others use terms such as ethical behavior or ethical thinking to convey the same idea.[14,138] Moreover, character is one of the six Cs of the positive youth development movement, and that C, itself, is composed of personal values, social conscience, values diversity, and interpersonal values and skills.[134]

Although Child Trends did not find specific mention of character in the college readiness literature, the U.S. workplace readiness literature does convey this idea, although it uses a different word to express it: integrity.[219,220] Further, in an international review of competencies needed for education and the workforce, the idea of character is expressed as "values," embracing the concepts of ethics, integrity, loyalty, reliability, and honesty in the workplace.[227]

Another requirement for positive social interactions is good communication skills. For at-risk youth, good oral and written communication skills and creative expression are included as part of the developmental goal of being intellectually reflective.[180] The Organization for Economic Cooperation and Development (OECD) considers the ability to use language, symbols, and text interactively as a key competency for a successful life, but these skills are not emphasized in the literature on healthy youth development. They are emphasized for college and workplace readiness, however. The specific competencies emphasized in the college readiness literature include the ability to communicate with teachers and advisors,[42] as well as oral communication skills, written communication skills, and media competency.[8,172]

The American Diploma project[8] is most specific about the communication skills needed for college and work. The project emphasizes the abilities to choose words precisely, to communicate quantitative technical and mathematical information, to be persuasive, to understand rules and make appropriate contributions in a group, to assist or teach others—and to listen. The project also stresses the importance of writing skills, including being able to target written material to a particular audience; editing; revising, citing references (as needed); and crafting effective e-mail messages, memos, reports, presentations, and other written communications. Similarly, other workplace readiness studies emphasize general communication, oral communication, and listening skills.[13,37,137,204,206,216,218,220]

Social competence refers to the set of skills necessary to interact successfully with other people, to be generous and thoughtful, and to use accepted social techniques.[19] Child Trends includes here the capacity for sympathy, empathy, or caring (another one of the Cs of positive development),[134] as well as the ability to resolve conflicts. These skills are emphasized in the youth development and workplace literatures, but are not as salient in the college readiness research. This lack of emphasis is perplexing in that social competence skills have been found to be predictors of academic achievement [144] and social comprehension has been found to be important in the education sector and for preparing students with learning disabilities for college, in particular.[101,227]

Social competence is included under the C of competence in the positive youth development movement,[134] and emphasized as a goal of positive youth development in a range of related studies.[41,125] Moreover, the ability to resolve conflicts is seen as an important asset for the transition to adulthood.[57,180] The OECD highlights social competence—specifically, the ability to relate well to others, to cooperate, and to manage and resolve conflicts—as a key competency for a successful life and a well-functioning society.[185] The workplace readiness literature specifically emphasizes sociability and interpersonal skills, such as working on teams, serving customers, cooperating, leading, and negotiating[37,137,219-221,227] and resolving conflicts.[8,20,37,115,137,158,160,204,206,219-222,227,232]

Cross-cultural competency is becoming increasingly important in today's diverse society, and in the globalization of the workplace. The National Research Council[59,130] cites the need for in-depth knowledge of more than one culture, skills to navigate through multiple cultural contexts, and culturally sensitive values as personal assets that facilitate youth development and the transition to adulthood. The OECD and member countries—as well as Secretary's Commission on Achieving Necessary Skills (SCANS) in the United States—have identified intercultural competency, tolerance, and being able to work with diverse populations as key competencies for both education and workplace.[137,220,227]

The ability to adapt one's behavior, knowledge, and skills to the social context in which one finds oneself is widely recognized as a key competency for education, work, and life, as evidenced in the research literature reviewed.[158] Specifically to be ready for college, students need to know about the norms of social interactions in the college context and the human relations skills necessary to navigate the system, and this is particularly true for students with disabilities.[42,101] To be ready for the workplace, students need to understand their roles in the larger context, be able to adapt to changing roles, and be respectful of organizational norms.[82,137,206,220]

Connection to family, peers, school, and community is considered one of the most important assets for healthy youth development, based upon voluminous studies linking connectedness to positive outcomes.[14,16,31,38,41,58-60,67,68,83,88,93,134,177,180] Connection is one of the six C's of positive youth development.[134] Gambone et al.[83] suggest that the threshold for achieving success in early adulthood is having a strong attachment to at least two important networks and not being at risk in any network in the last years of high school. Social support has also been found to be one of the strongest predictors of college attendance and completion, particularly for minority and low-income students,[148] and it is a recommended component for initiatives designed to increase college-going.[193] However, connection was not mentioned in the workplace readiness literature reviewed.

School engagement deserves special mention here. It can be seen as overlapping with school connection, because school engagement has the emotional component of relationship to teachers and peers. However, school engagement also includes emotional engagement with schoolwork itself, as well as cognitive components (such as investment in learning and mastery of skills) and behavioral components (such as participation in class and school activities and positive conduct in class).[78] Students who are less engaged in high school are less likely to achieve in school and go on to college.[155] School engagement can also be a predictor of engagement in the workplace,[39] but is not mentioned in the workplace readiness research reviewed. Increasing school engagement by making schoolwork meaningful and relevant is a recommendation supported by recent high school graduates, college instructors, and employers.[166]

Prosocial behavior (acting with altruism) and civic engagement are worthy of another special mention under connection. The support for these competencies in contributing to positive development is wide and deep[14,41,58,59,83,134,138,158,180,190,198,236,237] and they are considered markers for youth to be considered thriving.[190] Prosocial behavior—as well as civic engagement—is also bidirectional, in that such behavior helps young people to develop their own identity, self-confidence, self-acceptance, competence, and efficacy, and increases their confidence in social institutions and buy-in to the general social good.[236,237]

Despite the relationships between prosocial behavior and civic engagement and college readiness, Child Trends did not find information on these competencies in the research that focused specifically on what students need for college. However, some colleges value evidence of civic engagement in a student's college application materials, although they consider this evidence less important than the student's academic record. The link between civic engagement and workplace readiness appears to be more notable. Schools are encouraged to provide opportunities for civic engagement and businesses are encouraged to express their civic engagement by offering apprenticeships, internships, and job shadowing opportunities to give students skills needed for meaningful work and financial autonomy.[232,237]

Cognitive Development

In adolescence, cognitive development creates new capacities. Thinking becomes more deliberate and controlled. Reasoning evolves from being inductive to deductive, and adolescents thereby are able to manage learning and problem solving better than previously. Adolescent thinking also becomes more abstract; thinking about one's thought processes (metacognition) starts to take place; thinking becomes more multidimensional; and youth are able to see things as relative rather than absolute.[117,207]

Despite these advances in adolescent thinking, few schools stimulate the development of abstract and scientific thinking (formal-operational thought).[207,208] Sternberg[208] stressed that most high school classes reward students for the rote memorization of concrete facts, instead of encouraging students to think abstractly or relatively. Classroom instruction and activities that take advantage of adolescents' maturing reasoning abilities promote more sophisticated conceptual understanding.[139] According to Keating, Lerner and Steinberg, schools should not assume that adolescent students need to "learn the basics" before learning complicated technical skills and should rely on students' inherent capacity for problem solving to teach such skills.[117]

A successful transition to adulthood requires cognitive maturation in the adolescent years.[60] This cognitive transition has implications for adolescents' other areas of development, specifically the psychological and social realm.[207] The key competencies associated with this stage in an adolescent's cognitive development are outlined below and on the chart of competencies. A review of the research shows that the level of specificity pertaining to cognitive development in the college and workplace readiness literatures is far more refined than in the youth development literature.

Both developmental researchers and youth development practitioners identify academic success in school as a vital developmental asset necessary for successful adolescent development (see [58,60,180]). Academic achievement is among the most prominent developmental competencies in an adolescent's life that is strongly related to successful early adult outcomes, such as being economically self-sufficient and having healthy family and social relationships.[83] In terms of specific thresholds for academic achievement, Gambone, Klem, and Connell[83] note that getting grades of B or higher constitutes one of the indicators of developmental success in late high school that increases the probability of success in early adulthood. Three school characteristics found to support high achievement during adolescence are warm and supportive teachers, learning activities that support high-level thinking, and active student participation in learning activities and classroom decision making (see [16]).

Research on college readiness finds that academic success in high school is particularly necessary for success in postsecondary education. Students who are prepared academically for college-level coursework have higher rates of going on to college,[11,17,106,193] doing well academically once they are in college,[1,8,128] and eventually graduating from college.[3,4,105,148]

Although statistical studies show that students with higher academic achievement will earn more and will be unemployed less often in adulthood than will their counterparts with lower achievement,[55] academic achievement has not been as salient in the research for workforce readiness. Employers use academic skills as one benchmark for determining work readiness,[151] but they also look for other evidence that a student is ready for the workforce beyond his or her academic success in high school.[75,135] In fact, some employers ignore the results of exams that students take in high school and instead present their own hiring tests to determine work readiness.[8]

Generally, high academic achievement at the secondary school level does not necessarily mean that a student is ready for college. The college readiness literature cites numerous specific academically oriented competencies that a young person should have to be academically ready for college and subsequently ready to handle workforce tasks. Thus, college readiness often requires rigorous high school coursework to acquire the following necessary competencies: writing skills,

research skills, language and grammar proficiency, mathematics proficiency (especially anything higher than Algebra II), and science knowledge (particularly physics) (see [1,3,4,8,11,42,148,166]).

Workforce readiness researchers identify many of these similar academic competencies that can be applied to work context, with less emphasis on advanced mathematics and science: writing skills, research and technology skills, language and grammar proficiency, high school English, science coursework, and basic mathematics skills and the ability to apply them in the work context (see [1,8,13,20,21,37,82,137,166,204,206,216,218-221]). However, taking mathematics classes beyond Algebra II appears to increase a student's feeling of being prepared for the workforce.[166]

Educational attainment is a developmental asset that is often used as a benchmark for healthy youth development. High school completion and completion of a postsecondary degree or occupational certification are important indicators for successful young adult development.[14] Moreover, these markers can directly affect many of the outcomes of future adult life, including one's occupation and career, income, wealth accumulation, and lifetime earnings.[186]

Evidence of completing high school is required before a young person can go on to postsecondary education,[1,8] but the literature on workforce readiness is more varied in the way it looks at educational attainment. Research that links educational attainment and workforce readiness typically presents relationships between different levels of educational attainment and the types of jobs (e.g., low-wage, low-status; high-wage, high-status) associated with these different levels of attainment.[70,151,160] However, the majority of the workforce readiness literature identifies the following competencies as being notably more important than the completion of a high school degree:

- workforce readiness credentials (such as a certificate program) or school work programs (such as internships) that teach many important competencies that are not taught in schools,[75,204,220]
- previous work experience,[13,39,70,82,90,122,223,232]
- quality of past employment,[82,90] and
- tenure in the workforce.[70]

Although specific study skills—such as time management, preparing for and taking examinations, using information and resources, and taking class notes—were not found to be important for overall healthy youth development, research on college readiness indicates that these are important competencies for juggling the academic responsibilities of college life.[42,176,193]

Research on workforce readiness particularly highlights time allocation skills as a valuable competency for any workplace.[220,227] Along the same lines, the literature shows that career planning abilities are a valuable competency for students to have. Students who have a clear plan for the transition from high school to work,[69,168,231] and who are able to develop skills in career exploration,[151] are deemed to be ready for the workforce.

Being a lifelong learner is a marker of a developmentally flourishing individual.[131,138,192] This characteristic is a necessary competency for college readiness, and the workforce sector has identified the ability to keep learning as a valuable personal asset.

The main cognitive changes in adolescence are usually seen as intellectual improvements, but improvements in other competencies also occur. Lemke and colleagues[131] identify the importance of measuring general and nonacademic knowledge and skills—known as cross-curricular competencies (e.g., everyday literacy) —in the Program for International Student Assessment (PISA). The youth development literature also presents cognitive competencies that are acquired beyond the classroom. A broad base of knowledge is important for overall healthy development.[58,60,131,180] A related ability is creative expression.[180] Conley and EPIC[42] do not identify creativity as an important feature of a college-ready individual, but they do note intellectual openness and inquisitiveness as such. Research on workforce readiness is more likely to embrace creativity as a highly valued skill.[37,82,156,219,222,227]

The ability to use technology interactively has been identified as a key competency for successful development,[158] college readiness,[42,185,193] and workforce readiness.[206,216,219-222,227,] The Organization for Economic Cooperation and Development (OECD)[158] has also identified the ability to use knowledge and information

interactively as an important competency for a successful life overall.

Other researchers have also linked similar competencies to overall healthy youth development, namely: problem-solving skills;[58,60,83] critical thinking and reasoning skills;[58,60,117,138,207] and evaluative skills and reflection.[117] Research on college readiness appears to agree with the youth development literature in concluding that problem solving, analysis and data interpretation skills, reasoning and argumentation skills, and evaluative skills and reflection are important for postsecondary preparation.[1,8,42,172]

Child Trends' review of the workforce readiness literature has also found that similar competencies are critical for being able to perform the tasks expected in the workplace. Using technology, knowledge, and information interactively[158] is one of these competencies. Others include problem solving,[8,13,37,115,137,156,166,204,206,216,219-221,227] analysis and critical thinking,[8,156,166,216] reasoning and argumentation,[8,37,219,220,222,227] and evaluative skills.[8,204,206,220,227]

Globalization has led to increases in the interconnectedness and interdependencies of cultures around the world.[130] It is not surprising, then, that having an in-depth knowledge of other cultures and acquiring the skills to navigate in multiple cultural contexts have emerged as key competencies for healthy youth development today.[58,130,180] The research on college readiness reflects this value of multicultural knowledge. Knowing foreign languages[42] and having some understanding of various aspects of other countries (e.g., geography, political science, and history)[1,8,42] are identified in the literature as valuable assets for college life. The workforce readiness literature supports the value of these competencies as well. An understanding of U.S. culture[221] and of democracy,[227] political awareness,[227] and knowledge of foreign languages and internationalization are all valued as important competencies for today's workforce.

Spiritual Development

Although spirituality and religiosity are not universally accepted as necessary assets, the youth development field increasingly includes them in its requirements for flourishing. That is not the case for the fields of college and workplace readiness.

Spirituality is defined more broadly than the traditional focus on religious attendance, involvement, and belief and often extends to finding meaning and purpose in life. Eccles et al.,[60] for example, include spirituality and a purpose in life in the list of assets necessary for a successful transition to adulthood. Adolescence is a key time in the life course when spirituality develops because spiritual questioning and experimentation are part of the larger task of identity development that occurs during this period.[212]

Spirituality is also related to the development of morality.[41] Damon[51] theorizes that a sense of purpose plays a positive role in self-development, and youth who have a sense of purpose show high degrees of religiosity. Lickona and Davidson[138] include becoming a spiritual person as one of eight character strengths that are necessary for positive outcomes. The researchers define becoming a spiritual person as involving creating a life of purpose by pursuing authentic happiness; formulating life goals; possessing a rich inner life; and pursuing deep and meaningful connections to others, nature, and a higher power.

Other research shows that religiosity can contribute to positive outcomes, such as social support, prosocial behavior, higher quality of relationships with adults, moral reasoning, community participation, and emotional well-being, and that it may even promote good physical health and a general state of wellness.[23,177] Research also shows that religion can be protective against risk behaviors, such as sexual activity, smoking, drug and alcohol use, suicidal ideation, and delinquency.[15,23,41,141,201] In addition, youth with higher rates of attendance at religious services have been found to have more frequent positive interactions with adults outside of their own families, thus expanding their social capital,[191] and they have higher school-related self esteem.[146]

Whereas many of these positive outcomes are clearly related to success in college and the workplace, Child Trends found only one international study that mentioned spiritual development as important in the realm of education.Trier [227] reported that in Norway, spiritual development was part of the education system's core curriculum guidelines. Other than that, neither the college readiness nor workplace literature reviewed mentioned spirituality or religiosity as an asset that would be helpful in preparing youth for those transitions.

Special Populations

This section addresses challenges faced by several special populations of youth and describes the assets, competencies, and skills that can help them make a successful transition to school and work. It also provides recommendations for strategies that high schools can consider to facilitate those transitions.

Low-Income and Minority Youth

Adolescents in low-income families face more challenges on the path to college and the workforce because they have more limited access to financial resources and social capital than do their higher income peers.[5,63 cited in 130] In addition, gaps in preparation for college or the workforce are more prevalent among low-income students than among their higher income peers.[166] This section highlights a few of the many studies that suggest ways to ease the pathways to college and the workplace for both low-income and minority students.

Transitions from High School to College. High school students belonging to low-income and minority groups are faced with many challenges as they move into postsecondary education. These challenges include lower educational expectations, lack of information, less qualified teachers, and less rigorous curricula.[37] Large gaps in access to higher education between low- and high-income families threaten upward mobility.[64 cited in 37]

Among low-income and minority students who do enter college, completion rates are lower than those of more affluent students, in part, because of college costs. Students from families with low levels of human capital (investments in education and training) are at heightened risk for dropping out of school.[116,129,165] Latino students, especially those who are immigrants, are more likely to drop out of school than are students in other racial or ethnic groups in the United States.[5,32,103,129,142] Latino students are more likely than are students in other racial or ethnic groups to attend resource-poor schools, another factor linked to increases in student dropout rates.[5] African American students drop out at rates that are lower than those of Latino students but that are higher than those of white or Asian students.[123,129] African American students have higher detention, suspension, and expulsion rates and lower standardized test scores, compared with white or Latino students.[103,123]

Research shows a strong link between high educational expectations and actual college enrollment, yet low educational expectations are especially prevalent in the lowest income families.[140,187] Expectations to attend college are increased if young people believe more strongly that they can pursue and succeed in higher education.[31] Thus, it is especially important that schools serving high proportions of minority students promote positive expectations for success. Constantine et al.[43] found that black and Latino students often have high aspirations for their career development. Yet these students often fall short of their goals because they have low expectations of reaching them. In contrast, for white non-Hispanic students, the gap between their aspirations for career development and their expectations of success is much smaller.[43]

To help minority students develop the expectations and career-related efficacy that may lead to later success, schools need to make career planning and vocational programs available to students.[168] In addition, research indicates that black and Latino students who have some type of orientation to the adult world—such as mentoring programs that foster interaction with adult role models—are more likely to have a smooth transition to the workforce.[43,132,168]

Many low-income and minority students who are qualified to move on to postsecondary education do not do so because they lack information, support, and money.[37,114] High schools are

[1]"Minority" refers to African American and Latino populations.

important venues to provide this information and prepare students to get them ready for college, particularly because both low-income students and their parents are less knowledgeable about college costs, compared with those in higher-income households.[107] Parents of black and Latino students were also found to be less likely than were parents of white students to be aware of college costs. A recent study[140] showed similar results: a higher percentage of students from families with incomes below 200 percent of the poverty line had parents who said that their child's school provided no information at all to assist in postsecondary planning, compared with students from higher-income families.

As students begin high school, it is particularly important for low-income students to have equal access to high-stakes information about preparation for postsecondary education to help them understand the school culture, policies, and practices so that they can cultivate a strong academic identity.[44] This information can cover topics such as proper course selection, admission to honors or Advanced Placement (AP) programs, access to magnet or gifted and talented programs, and opportunities for involvement in extracurricular activities. Students who are not exposed to this kind of information can become discouraged, not because they lack motivation or the intellectual capacity, but because they do not have access to what they need to know to successfully navigate the educational system.[205 cited in 44]

Within high schools, guidance counselors are often the gatekeepers for low-income and minority youth because they distribute important information and resources that can help shape future academic and career possibilities.[43,44,106, 66 cited in 114] However, counselors emphasize that providing information and guidance about postsecondary education can only help if students are academically prepared for college.[114]

Compared with schools serving more advantaged populations, schools serving low-income and racially isolated minority populations are far more likely to have less qualified teachers.[12,53] These schools are less likely to offer high-quality remedial services, advanced course offerings, and courses that facilitate higher-order thinking skills.[56, 203 cited in 193] Even extremely motivated adolescents may find it difficult to do well in such educational circumstances.[56]

Among low-income and minority students attending high schools that offer effective curricula, many are not informed about the importance of taking rigorous courses for college enrollment.[4] Even if the students are able to tackle the curriculum, they are often not advised to take such courses.[4] For students who move on to postsecondary education, the positive impact of a high-quality academic curriculum on degree completion is greater for African American and Latino students than it is for white students.[3,4]

Academically rigorous programs in high school have been found to be an important factor in predicting college enrollment among African American and Latino students.[3 cited in 148] Data suggest that black and Latino students are less likely than are their white peers to participate in high-quality classes that are geared towards college preparation and are less likely to pursue postsecondary education.[5,123] However, when Latino high school students succeed in rigorous academic programs, they enroll in top-tier four-year colleges at similar rates to those of white non-Hispanic students.[80 cited in 148] Martinez and Klopott[148] found that the most crucial predictors of a student's enrollment and eventual completion of postsecondary education are academic rigor and social and academic support. They identify four practices that are commonly credited for the success of low-income and minority students in high school: 1) all students are given access to a rigorous academic core curriculum; 2) the school has a personalized learning environment in terms of structure and climate; 3) the school maintains a balance of academic and social support for the students in developing social networks and instrumental relationships; and 4) the school aligns the curriculum across various levels—between secondary and postsecondary and between levels within the K-12 system.

The KIPP Academies appear to provide a case study of this approach. Their core set of operating principles known as the "five pillars"[126] reflect much of what Martinez & Klopott[148] emphasized. Those principles consist of 1) high expectations; 2) choice and commitment; 3) more time; 4) power to lead; and 5) focus on results. KIPP

opened its first high school in 2004, and two KIPP high schools with measurable results have reported higher rates of passing scores on various state assessments, compared with other high schools across the same school district.[127] Even though several recent news and opinion articles in popular media outlets have cited the KIPP Academies as successes in educating low-income minority children (see [24,152,225,234]), rigorous experimental evaluations of these high schools have not been completed.

Strong social networks that support students' academic and emotional development can increase the likelihood of going on to college. Using data from the National Longitudinal Study of Adolescent Health (Add Health), Caldwell, Wiebe, and Cleveland[31] analyzed the predictors of college certainty (whether an adolescent expects to attend college) among African American adolescents. College certainty increased if more adolescents in similar circumstances actually attended college and if family members provide emotional support. Strong interpersonal connections among students, their parents, and school mutually reinforce the message of the importance of college and increases the likelihood that connected students will affiliate themselves with that message.[193] Mentorship can also be helpful in encouraging low-income and minority students to consider postsecondary educational opportunities.[111] In high schools where students have limited access to role models and college experience, mentorship programs that connect 9th- and 10th-graders with 11th- and 12th-graders and programs that establish relationships between college and high school students allow students opportunities to visualize college goals.[193]

Transitions from High School to the Workplace: Minority and low-income youth are less likely to be ready for the workplace because of lower skill levels, fewer opportunities, and lower levels of social capital that can be helpful in identifying opportunities. In particular, African Americans have higher unemployment rates than both whites and Latinos at every educational level.[103] High schools that serve many youth who are not headed for college, typically located in poor neighborhoods, need to prepare low-income and minority students for a range of future possibilities.[102]

The Alfred P. Sloan Study of Youth and Social Development (SSYSD), a longitudinal study of adolescent career development, found that low-income minority youth, in particular, had difficulty identifying potential career opportunities. However, those students who were exposed to adults in different occupations were able to identify specific jobs and career opportunities.[193] Interaction with adult role models is an important factor for helping to improve readiness for school-to-work transitions.[168] Mentorship can improve career-related efficacy[43] and perhaps help to prepare racial minority youth for the racially discriminatory career barriers that still exist. Blacks and Latinos who are prepared to deal with such career barriers improve their coping abilities and career self-efficacy.[92 cited in 43] Career mentorship programs help high school students formulate and establish their career goals.[193]

Research has found a positive relationship between early exposure to paid employment during high school and later success in education and the workforce.[30] According to two large-scale surveys of American employers, having previous paid work experience was the only characteristic consistently ranked as one of the three most important reasons an applicant was hired or rejected.[153,154] Yet minority youth who are employed while in high school are less likely to have jobs that provide them with skills, training, or opportunities for advancement, thus creating barriers for the later transition to full-time work.[209 cited in 75] The Forum for Youth Investment [75] recommends that schools sponsor internships and other school-to-work programs with employers who are willing to train and support students so that they can build workplace skills and develop work experience, which are critical to a successful workforce transition.

Computer skills are essential to today's workforce and postsecondary employment, as everyone knows. Yet despite efforts to close the digital

[1]No statistical tests for significant differences were noted.
The surveys were the Survey of the National Association of Manufacturers and the Educational Quality of the Workforce National Employer Survey

divide, many low-income youth lack these skills.[213] Schools serving this population can provide better access to technology and trained faculty to teach technology-related curricula to boost opportunities for students to develop technology skills. Internships and school-to-work programs also can provide important real-world work experience. In addition, schools can train students in all of the areas listed in the sections above on the competencies needed for workplace readiness.

Schools serving high percentages of low-income and minority students that use the Career Academies approach have been found to be effective in preparing students for successful school-to-work transitions without compromising academic goals and college preparation.[119] Three features distinguish these schools: 1) a school-within-a-school structure in which a team of teachers is linked with a group of students to create a small and personalized learning environment; 2) an integrated academic and vocational curriculum linked to the academy's occupational focus; and 3) the use of business partnerships in which employers assist in designing the academy program, provide workplace experiences, and can offer summer or even permanent employment to students. Rigorous evaluations of these schools have shown them to have positive effects on work-based learning experiences (see [118-121]).

College and Workplace Readiness for African American and Latino Males: African American and Latino males face especially tough challenges in preparing themselves to enter college and the workforce.[22,62,150] Compared with their female counterparts, black males graduate from high school at lower rates and go on to college and graduate from college at lower rates.[72,99,123,188] Latino males also fall behind their female peers in academic performance and high school completion[65 cited in 188 72,157,167,188]. Black and Latino males are also less likely to graduate from high school and to complete college than are their white or Asian male peers,[123,157] and they are more likely to become disengaged or drop out of school than are their female counterparts.[72,157] Evidence suggests that some Latino males may be more likely to leave school than is the case with Latino young women because the males feel pressure to fill adult roles earlier and begin earning money and supporting their families, especially if their families are poor.[74] In addition, research shows that African American male high school students have higher rates of detention, suspension, expulsion, and receipt of harsh discipline than their female and white male counterparts,[123,149 cited in 188 188,233] which increases the likelihood that they become academically disengaged.[149 cited in 188,233]

Research has identified several strategies used by schools that appear to improve the educational outcomes of black and Latino males. The strategies addressed here fall into the categories of personnel, school structure, and curriculum. Strategies pertaining to school personnel involve finding and employing effective adult mentors and advocates, as well as minority male teachers. Structural strategies include the use of single-sex classes and bilingual and multicultural classrooms. Curricular strategies include reducing the overrepresentation of minority males in special education classrooms and increasing their representation in AP courses.

Low-income and minority students often do not have family and community members who can adequately fill the roles of caring and committed adult mentors and advocates in school settings.[108] However, support from adults need not end in the home; research shows that in-school support from school staff can benefit students.

Mentoring programs are frequently cited as successful school-based interventions that can result in increased academic motivation, better school attendance, and reduced problem behavior in this population.[52,147,233] The Task Force on Maryland's African-American Males suggests assigning each student an adult advocate to help the student better navigate around academic and disciplinary issues, as well as to provide effective college and career counseling.[210] In fact, when looking at high-achieving black high school students, mentorship is found to be a common factor for academic success, including graduating from high school at the top of one's class.[79 cited in 52] Further, researchers have suggested that same-sex mentors may serve as positive male role models for black and Latino males who frequently do not have this type of interaction with their fathers.[170,199] Successful male mentors should focus on leadership skills, notions of masculinity, conflict resolution, learning strategies,

communication and social skills, and cultural specific topics such as coping with social injustice.[233]

Another strategy related to personnel that some studies find beneficial is to employ teachers who are the same sex as the students they are teaching as a way to increase opportunities for black and Latino male students to interact with positive male role models.[113,170,199]

Strategies pertaining to school structure include single-sex classrooms, which some studies have linked with fewer problems with discipline and student preparation for class.[170] In studies of black and Latino students attending single-sex schools, findings are mixed about whether these students academically outperform students attending traditional co-educational schools (see [34,110,133,175,229]). Among the studies that did find black and Latino students in single-sex schools outperforming their co-ed counterparts or white counterparts, the positive effects of single-sex education were larger for more disadvantaged students.[110,229] Some studies suggest that single-sex schools give minority male students the freedom to achieve academically without being perceived as effeminate. It should be noted that the literature on the effects of K-12 single-sex education is inconclusive overall (see [91,170]), and concerns have been raised about inequity for girls in high-poverty areas if resources are concentrated on boys schools.

Bilingual and multicultural education is another structural strategy. Evidence suggests that when Latino males are taught in both Spanish and English, they perform better in school than do their counterparts who are taught only in English.[182 cited in 170] Learning in Spanish in addition to English may allow Latino students to achieve academically while maintaining a strong cultural identity.[170] Multicultural education and counseling may be important for both black and Latino males. Research shows that counseling, in particular, is most effective when it focuses on culture- and gender-specific problems, the emotional needs and development of young minority males, and black and Latino heritages.[170,233]

The third area of strategies pertains to school curricula so that minority males are given the same opportunities to learn as other students. Since Brown v. Board of Education (1954),[28] the number of black and Latino student placed in subjective categories such as "mentally retarded" and "emotionally disturbed" has contributed to an overrepresentation of minority students in special education programs.[97] as cited in [48] The problem of this overrepresentation is exacerbated when it results in a child's removal from the regular education setting, the core curriculum, or both.

Another curricular strategy is to provide minority males access to Advanced Placement (AP) classes. African American males are underrepresented among students who take AP tests. Only [1,229] African American male sophomores, juniors, and seniors took an AP exam out of 32,000 eligible in 2005.[214 cited in 211] Of those who took an AP exam, under 40 percent scored a passing grade. Increasing African American and Latino male participation in AP classes increases their college readiness.[215 cited in 211]

English Language Learners (ELL) and Immigrant Youth

Young people who have recently immigrated to the United States may not possess any English literacy skills, knowledge of American culture, or documentation to allow them legally to work or attend college.[5] Even with documentation and awareness of American culture and norms, young people in language minority groups and English language learners (ELLs) require special consideration because of their limited English skills. It can take from three to five years for students with limited English proficiency to develop oral language proficiency, and it can take between four and seven years for them to develop "academic English proficiency," that is, the ability to use English in academic contexts.[49,95] Students who have no previous background in English and no formal schooling in their native language can take between seven and 10 years to reach age- and grade-equivalency with their native-speaking peers.[40]

English language learners need both English literacy skills and academic competencies to be able to transition successfully to postsecondary education. Research conducted by the Pew Hispanic Center suggests that "college education is closely tied to the ability to speak and read English."[94] In fact, two-thirds of immigrant Latino students who earned college degrees reported being able to speak English very well. In contrast, only one-third of Latino students who graduated high school reported that they could speak English very well and only about one in 10 dropouts reported that they could speak English very well.[94]

The Secretary's Commission on Achieving Necessary Skills (SCANS) categorized English language learners as falling into one of three distinct groups based on their academic and English proficiency levels.[221] These groups have different needs that must be met to ensure that they are ready to continue their education beyond high school. The first group consists of those who possess the technical knowledge and basic skills required for work but who need a curriculum that is strong in interaction and communication to promote the speaking, listening, and cultural skills essential to success in American work environments. The second group consists of those who have obtained some English and literacy skills through social interactions but who will need to modify what they have learned so that this knowledge is appropriate for academic and work settings. Students in this group will benefit from curricula that emphasizes problem solving and literacy activities and that allow students to use English and literacy skills in appropriate contexts so they can benefit from future academic and vocational training.[221] The third group is most likely composed of recent immigrants who may have no understanding of English or American culture and little exposure to literacy skills from their previous education.

Immigrants and ELL students are a diverse group. Approximately five percent of the school age population in grades 9 to 12 has difficulty speaking English, but these students are not evenly distributed across racial and cultural groups.[123] Recent data (2005) from the American Community Survey indicate that speaking English is difficult for approximately 18 percent of Asian students, 17 percent of Latino students, 2 percent of black students, and 2 percent of white students.[123] Within Latino groups, those who are of Mexican, Dominican, and Central American descent are less likely to be able to speak English than those who are of Puerto Rican, South American, or are of some other Latino background. Within Asian groups, Chinese, Japanese, Korean, and Vietnamese students are almost twice as likely to report difficulty speaking English as are Filipinos and Asian Indians.[123]

Data from the U.S. Census of Population and Housing (2000) also show that among 6th- through 12th-grade students whose parents are immigrants, approximately 9 percent of white and black students, but 21 percent of Asian students and 28 percent of Latino students have limited English proficiency.[35] Among these students in these grades, 44 percent are first-generation Americans, 27 percent are second- generation, and 29 percent are third-generation. In addition, data show that Asian and Latino children of immigrants are more likely than are native-born whites and blacks to be linguistically isolated.[35]

Recent findings from a survey conducted by the Pew Hispanic Center provide new evidence of different needs according to age of immigration. The study found that students who arrived in the United States before the age of 10 were more likely (76 percent) to speak English well, compared with those who arrived directly before or during high school (30 percent).[94] These older students will benefit from programs that focus on English and literacy skills, which have been linked with completing high school and going on to postsecondary education.[94]

A large body of research suggests that English language learners should be grouped according to their English and academic abilities.[2,5] When students with limited English proficiency are placed in mixed-ability classrooms, they have increased rates of disengagement and lower achievement, reducing the likelihood that they will be prepared for college.[40,86,95,159] A survey of high school teachers found that placing students with substantially different levels of English and academic proficiency in the same classrooms also was detrimental to teaching. The reason for this was that the curriculum could not be designed to meet the varied needs of these students or it was designed solely for use by students who were fluent in English.[84]

English language learners also develop skills better when taught simultaneously in both their native language and English.[10,40,86,95,179,200,228] Instruction presented in the student's native language is the most effective for continuing progress in core academic learning, language skills, and basic learning in English. In school districts that serve students from several dozen cultures who may speak many different languages, the task of recruiting qualified teachers becomes increasingly difficult.[84] Because of the high demand for bilingual teachers and the shortage of qualified teachers, many ELL teachers either do not speak a student's language fluently or do not have adequate background knowledge in the subject that they are assigned to teach.[5,73,84,228]

In terms of preparation for the workforce, English literacy and an understanding of American culture are important for successful outcomes. Of Latino immigrants who are currently working, more than two-thirds say that they have to use some English at their jobs.[94] English proficiency also plays an important role in determining Latinos' income levels and occupations. Data from the Census Bureau show that 65 percent of Latinos with limited English proficiency were earning less than $30,000 a year in 2002-3 and almost three-quarters of those with limited English proficiency were working in low-wage jobs in the service sector.[5] An understanding of American culture is also cited as an expectation of U.S. employers and may play an important role in determining whether someone succeeds or fails in the workplace.[221] This expectation may have a special bearing on young immigrant workers in that their previous attitude towards work in terms of task orientation, achievement, individualism, and change may differ considerably from what is expected of American workers.[221]

Youth With Disabilities

Transitions from high school to postsecondary schooling or the world of work are more difficult for students with disabilities than they are for their nondisabled counterparts. Students with disabilities represent a diverse group of individuals with unique needs; these can range from learning disabilities or emotional disturbances to physical problems, including hearing impairments. In general, students with disabilities are more likely to become disengaged from high school, and even those who complete high school successfully are less likely to enroll in a postsecondary institution.[104,196] Students with disabilities who graduate high school and enter the workforce do not fare much better. They are less likely to be employed than are high school graduates in the general population. And when they do find employment, they are more likely to work in unskilled jobs and to earn less than their nondisabled peers.[33,160,196]

Students with learning and emotional disabilities face specific challenges on the pathway to adulthood that are unique to a particular disability, whereas some of these challenges apply more broadly across a majority of students with disabilities. Children with learning disabilities often perform poorly in academic settings, but many still possess social skills that enable them to function in other settings.[136] Students who possess social skills but otherwise are not able to keep up with the academic demands of high school are likely to retreat from their source of failures and become disengaged from school, which often manifests as high absenteeism or complete withdrawal from school. Although still ostensibly attending school, these students are at high risk for academic failure. In fact, high absenteeism is the strongest factor in determining which students in this population will drop out of school.[136,224] When these students do drop out, they have few avenues for locating jobs and making contacts in the workplace.[29,136] As a result, these youth are less likely to be employed or to earn an adequate income, compared with students with disabilities who remain in school.[33]

For students with disabilities, graduating from high school is the key first step towards positive future outcomes. In fact, in an analysis of data from the National Longitudinal Transition Study of Special Education Students (NLTS), youth with learning disabilities who graduated from high school were at no relative disadvantage to their nondisabled counterparts in terms of employment.[136,230] It should be noted, though, that young

people with emotional disabilities were at a significant disadvantage, whether they graduated from high school or not.

While high school graduation is an important milestone on the path to adulthood, the type of courses that students take during high school is also critical to later success. Additional coursework may be needed for students with disabilities so that they can develop skills and abilities that nondisabled students may already have. These critical skills and abilities include basic study skills; social skills, including interactions with teachers, authority figures, and peers; emotional and self-esteem skills; goal setting; the ability to understand strengths and weaknesses; self-help skills and habits that are needed in work and school settings, such as attendance and time management; and a knowledge of their rights as a people who have disabilities.[101]

In addition to obtaining a high school diploma, there are several other pathways to success for students with learning disabilities. Transition planning services—particularly those that enable students to provide their input into the decision making process—are essential to the success of students with learning disabilities. Students who take the lead in planning for their transition to college or work show greater responsibility for their lives beyond high school.[136,145,171] Participation in vocational education is another pathway to successful transitions to adulthood for learning and emotionally disabled students. Data from the NLTS show that students who took courses in an occupational area were more likely than those who only participated in academic work to get competitive employment after graduation and were also more likely to have jobs with higher earnings.[136,230]

Students who are hearing impaired are often at a disadvantage in preparing for postsecondary education and the workforce because of their more limited exposure to conversation and meaningful social interactions.[20] To overcome possible deficits in communication skills and vocabulary, and any diminished experience with conceptual thinking, such as symbolic language, students with hearing impairments need an intensive curriculum that focuses specifically on these skills.[20,143]

Past research has demonstrated that several characteristics are frequently linked with successful outcomes for deaf students. A study of 20 deaf students who were successful academically, socially, and had positive self-perceptions found that success was associated with "self-determination, extracurricular activities, social skills and friendships, self-advocacy skills, communication with and support from general education teachers, pre-teaching and post-teaching of content and vocabulary taught in the general education classroom, collaboration with early identification and early intervention service providers, reading, and having high expectations."(see [143, Table 2]) This research underscored the need for additional mentoring and tutoring programs outside of normal school attendance and also identified the need for accessible after-school activities to help deaf students develop social and communication skills.[20] In addition, career and college counseling can help hearing impaired students to cultivate positive expectations for success in the workforce, develop careers instead of just working "jobs," and highlight the benefits of earning a postsecondary degree.[194]

Disconnected Youth

Approximately eight percent of young people in the United States between the ages of 16 and 19 are not in school and are not employed.[71] The Bureau of Labor Statistics in the U.S. Department of Labor refers to them as "disconnected youth." Some researchers [27] have included additional criteria in their definition of disconnected youth: not in the military; and not married to anyone who is in school, working, or in the military. Regardless of how this population is specifically defined, it is clear that there is a sizable group of highly disadvantaged young people whose risks are multiplied because they are not productively engaged in either school or work and, therefore, are not likely to become financially independent.

Researchers Hair and Moore [93] used Brown and Emig's definition of disconnected youth and

the National Longitudinal Survey of Youth (NLSY:97) to identify factors that predict disconnection among youth. They found, in multivariate models, that the following groups are more likely to experience disconnection: 1) youth in lower-income households; 2) youth whose parents are black; 3) youth who live with just one biological parent; and 4) youth whose parents are unemployed and have less education. In addition, young people were more likely to be disconnected later in life if their physical health was reported as less than "very good" and if their friends belonged to gangs, cut class, smoked, got drunk once or more a month, and used illegal drugs. In contrast, young people who participated in job training programs, job search programs, or school-to-work programs during high school were less likely to become disconnected. This research suggests that improving physical health, avoiding negative peer groups and risk behaviors, and participating in programs that facilitate employment can help prevent disconnection.

Youth with special needs are also at an elevated risk of becoming disconnected or entering into low-wage jobs. Young people in special education programs, as well as those in foster care or the juvenile justice system, often come from families with limited economic resources and limited abilities to offer emotional support. These circumstances can lead these young people to drop out of high school and become jobless.[76] Even if they complete high school, they may find it more difficult to obtain steady employment. About one-half of students with emotional disturbances drop out of high school, and after they drop out, do not have the type of social skills needed to obtain and retain a job.[160] And once a young person becomes disconnected from school and work, he or she has a harder time reaching independence later.[25] Schools and community programs that are successful in identifying and treating emotional disturbances, as well as teaching social skills related to employment, may be better able to prevent youth from becoming disconnected.

Dropping out of high school is a critical pathway to becoming disconnected. Consequently, it is often suggested that young people who drop out of high school be encouraged to take a GED test to earn their GED credential. Indeed, in a review of the existing literature, Heckman and Rubinstein 100 found that people who earn a GED have higher hourly wages and finish more years of high school than do people who drop out and do not earn a GED. However, when Hair and Moore used NLSY: 97 data to look at outcomes of GED earners, they found, after controlling for ability, that GED earners make less money, have lower hourly wages, and have less schooling than other high school dropouts. This difference in results is explained by the finding that, although dropouts who earn a GED have higher cognitive skills than other high school dropouts, the GED earners also have lower levels of noncognitive skills, such as perseverance, dependability, and consistency.[100] Many employers look for job-specific skills and personal qualities that suggest a person will be a dependable worker, rather than just looking at high school educational credentials.[122] Building and assessing noncognitive skills in addition to, or as part of, a GED course can help dropouts succeed in the job market after obtaining their GED.

When youth who are disconnected get hired, it is often in a low-wage job. Research has found that high school dropouts have little assistance in finding first jobs. As a result, they tend to become employed in jobs that are low-quality in terms of pay and benefits.[122] Therefore, having effective job assistance programs available in the community for youth who have dropped out of high school might help these youth avoid low-wage first jobs and attain higher-quality employment.

Foster Youth

Youth who have spent time in foster care (or "foster youth" as they are called in the literature) often have critical needs related to supporting themselves that other youth in the general population do not have. For instance, foster youth who age out of the system may find themselves having to fend for themselves at age 18. They need to obtain housing; employment or further education; financial aid; and help with budgeting, cooking, home maintenance. And they need to deal with other real-world issues that other older teens still living with their parents may not have to worry about.[45]

A few studies have been launched to learn what type of experiences foster youth have in various aspects of their lives, including education and employment.

Researchers conducting the Midwest Study [45] interviewed foster youth from Iowa, Illinois, and Wisconsin about their demographic characteristics before they entered care, their experiences while in care, and their status at the time of the interview. The Midwest Study found that the majority of foster youth who were interviewed had received at least one type of independent living service, such as educational support, employmen t/vocational support, financial management services, and housing services.[45] However, these youth still had more education and employment difficulties than did youth in the general population. Even though nearly one-half of the young people who had experienced being in foster care said that they hoped and expected to graduate from college, they also had educational challenges that may make it more difficult for them to attend college.[45] Nearly one-half had been placed in special education, 40 percent had repeated a grade, and more than one-third had attended five or more schools.[45]

The Casey National Alumni Study [164] reviewed case files and interviewed adults who received services from Casey Family Programs' field offices in 13 states between the years of 1966 and 1998 to find out how maltreated youth placed in foster care are faring as adults. The study identified factors that were predictive of the youth having general success as adults: receiving life skills training; earning a high school diploma or GED before leaving care; receiving scholarships for college or job training; participating in clubs while in foster care; not being homeless in the year after leaving care; and having minimal academic problems or drug or alcohol use.[164]

A third study, the Northwest Foster Care Alumni Study, also evaluated how foster youth fared once they left the foster care system. The researchers recommend that youth in the foster care system should be encouraged to get a high school diploma and not to settle for a GED; should have more access to better preparation for postsecondary education; and should be encouraged to explore vocational education. They also recommend raising the age at which foster care alumni can receive scholarship aid.[163] To improve employment outcomes, they recommend that housing and independent living preparation programs should be improved and that training in life skills and employment opportunities should be offered to foster youth at an earlier age.[163]

Through all of these studies, one theme resounds: programs must be implemented to help foster youth build relationships and build their strengths, so that they can succeed in school, work, and the world around them. A common strategy recommended by these programs is based on building relationships with adults such as teachers, mentors, tutors, or guidance counselors who can help foster youth make the transition out of the foster care system more easily and successfully. Foster and Gifford[77] reported that assistance provided to foster youth through an independent living program in areas such as vocational training, counseling and support services, and training in daily living skills, helped young people move from care to independence. The researchers cite others who have found that the services most commonly offered often include postsecondary education support and career resources.[87] They also[76] found that even though there are many services already available to youth in foster care, most of these services have little or no benefit because they are tailored by age rather than by individual need.

A report by the Youth Transition Funders Group Foster Care Work Group[223] also recommends investing in services that encourage participation in academic, instructional, enrichment, and support programs and activities to help foster youth become educated, employed, productive citizens. The group notes that this goal can be advanced by establishing tutoring programs to help youth develop basic skills and complete coursework; avoiding the labels of "remedial" or "learning disabled"; having child welfare agencies develop working relationships with schools on a child's individualized education plan (IEP); and having colleges and universities develop projects

that increase a young person's experience with and knowledge of how college works through orientation activities, campus visits, peer and faculty mentors, tutoring programs, financial aid counseling, academic advising, and scholarships.

In addition, the group urges that everyone involved in the life of a foster child become an advocate for education. Caseworkers, foster parents, and other youth service providers should monitor school enrollment, attendance, performance, course selection, and educational placement. Most importantly, the work group emphasizes that the most powerful force for change is young people's hope and confidence that they can overcome the odds stacked against them.

Sexual Minority Youth

Sexual minority youth—young people who identify themselves as lesbian, gay, bisexual, or transgender (LGBT) or who question their sexual identity—suffer from many negative experiences growing up.[169,184, 189 cited in 207] Sexual minority youth are more likely than are their peers to think about and attempt suicide.[184] Sexual minority youth who attended schools that had LGBT support groups reported lower rates of victimization and suicide attempts than did sexual minority youth in other schools.[88] In his examination of civic engagement among sexual minority youth, Russell[183] also found that the presence of a Gay-Straight Alliance in the school provides the social support necessary for LGBT youth school involvement. Schools are an ideal environment in which to provide such support for these youth because they may be the setting most amenable to change in connection with the needs of these marginalized youth, compared with the faith or family setting.

Conclusion

This report has reviewed the research on youth development, college readiness, and workplace readiness in order to assess the extent to which these fields overlap or diverge in their recommendations for what youth need to succeed in each area. Highlighting the areas where these recommendations overlap reinforces the recommendations through corroboration across fields. But it is also important to bring what is known about youth development into the college readiness and workplace readiness discussion, highlighting gaps that may not be salient to those fields and thus expanding the ability of those fields to maximize college readiness and workplace readiness by defining them in a broader, holistic way.

In addition, a developmental perspective on the challenges of particular populations of students at risk, and the strategies that schools can use to help these groups to overcome their challenges, may move the discussion on "what works" toward a broader consensus that serves both purposes.

Where, then, is there agreement across the three fields? Broad agreement exists that in order to be ready for college and work and to flourish in life, young people need psychological assets, such as self-esteem, high expectations, and future goal orientation accompanied by appropriate planning. They need various learning strategies and motivation. They need social assets, such as good communication skills, social competence, conflict resolution skills, and cross-cultural competency, appropriate behavior, and engagement in school and community. In the cognitive domain, general agreement exists about the need for a high school degree, lifelong learning skills, and critical thinking and problem solving skills. However, the college and workplace readiness fields are much more specific about what skills are needed in academic subjects, compared with what is needed for healthy youth development, as would be expected. Assets in the physical and spiritual domains are stressed almost entirely by the youth development field, with some spotty agreement from the other fields.

The areas in which the three fields diverge are also of great interest, because these areas suggest potential opportunities in each field to foster young people's readiness for college, work, and the responsibilities of adulthood. These differences and the inherent opportunities they present are summarized below.

Physical Development

Healthy habits and avoiding risk behaviors are not considered among the attributes that students need to be ready for college, despite high rates of alcohol and drug use, risky sex, and violence on campuses. In contrast, employers do seek workers with these attributes, and the workplace readiness literature acknowledges this. The absence of attention to health and behavioral issues in the college readiness literature is both striking and troubling, given the high level of accidental injury and death among college students that is attributed to alcohol and substance abuse; the attention paid to "date rape"; and the folklore around the poor eating and sleeping habits of college students.

This observation suggests that more attention should be paid to these issues at the high school level in terms of offering prevention education specifically geared toward avoiding risks in college. It also reinforces the need for greater clarity in college recruitment efforts about the health habits and risk avoidance behaviors that are expected of prospective students. It may also suggest that colleges should focus greater attention on promoting first-year students' health and well-being, as well as exercising greater vigilance in this area.

Psychological Development

Positive mental health is vital to well-being in youth and young adults, yet this competency is not emphasized for college or workplace readiness, despite rates of depression and suicide on college campuses and of depression and anxiety in the workplace. Prevention strategies, mental health awareness training, and self-assessment tools are needed in high schools, as well as upon college and workplace entry.

While having high expectations and being competent in making plans are considered key to successful entry into college and the workplace, when those plans do not work out as expected, young people need resilience and coping skills. This reality is recognized in the youth development and workplace readiness fields, but again, these skills are not considered essential for college readiness. This omission may be related to the previously cited relatively high rates of depression and suicide among college students.

A strong work ethic is key to workplace readiness, including conscientiousness, reliability, professionalism, honesty, punctuality/timeliness, and good attendance. Curiously, these are not generally considered skills needed to be ready for college. Indeed, some college practices run counter to the development of a strong work ethic in students. For example, penalties for late assignments are fairly mild. A casual attitude about attending class regularly and on time is the norm on many campuses. Ethics violations, such as plagiarism, are notorious. In contrast, tardiness, dishonesty, and failure to show up at work on time or to meet workplace deadlines are dealt with harshly in most workplaces. Our high schools need to prepare students to have a strong work ethic for both college and the workplace, and colleges need to do more to reinforce that message.

Social Development

A strong moral character—which is variously defined as having ethical principles, values, integrity, and a social conscience—is considered essential for healthy youth development and workplace readiness, but it is not emphasized for college readiness. This finding suggests the need for effective character education in high schools to prepare students for work and life, as well as a need to reorient thinking about college readiness around the core values of society.

Communication skills are emphasized in order to be ready for college and for the workplace, but they are not emphasized for healthy youth development. This omission appears to be an oversight in the developmental literature, because communication skills are the foundation of positive social interactions, which is emphasized strongly in research on healthy youth development.

Social competence is a focus of the positive youth development research, with an emphasis on positive interactions with others. In the workplace readiness arena, competencies such as cooperation and resolving conflicts are emphasized. Social competence is among the top three competencies identified by the OECD for a successful life. Yet it receives scant attention in the college readiness research literature. Child Trends found only one mention of the need for social comprehension and it applied only to students with learning disabilities. It seems important to include social competence among college readiness skills to send a message to high school students that this is a key foundation for success in all aspects of life.

Finally, while social support and feeling connected to family, peers, school, and the community are so important for healthy youth development and college readiness, they do not factor into the criteria for workplace readiness. However, such support and connections undoubtedly are beneficial to workers in coping with workplace stress and nurturing their abilities to get jobs and advance their careers through social networks.

Cognitive Development

Despite the development of the capacity for abstract thinking among adolescents, and the expressed need for critical thinking and problem-solving skills in college and the workplace, few high school classes provide opportunities to use and develop this capacity. Indeed, many classes continue to emphasize basic skills and rote learning.

High academic achievement in high school is important for college readiness, but not for many jobs because employers often look for other evidence of workplace readiness, such as previous work experience. Having a strong academic record is only one of many attributes that employers value. Some employers value social competence and a strong work ethic much more highly than evidence that someone is "school smart."

Creativity is highly valued in the workplace, but it is not emphasized in college readiness criteria, although many college classes do reward, and indeed require, creativity. This discrepancy suggests that college readiness criteria and high school curricula may need to be more balanced to allow for demonstration of student creativity in interacting with subject matter, rather than assessing knowledge more narrowly.

Spiritual Development

Developing a sense of purpose in life and a sense of spirituality—or a connection to a transcendent force in life—are becoming recognized as key tasks of identity formation in adolescence and early adulthood, yet they are not universally acknowledged as valuable in our secular society. They are not included among assets needed for college or workplace readiness, even though they can provide goal orientation and fortitude that can be beneficial in challenging times.

Likewise, religiosity—or the involvement in a specific religion or a religious community—is recognized as a developmental asset that contributes strongly to positive outcomes in early adulthood, yet it, too, is absent from college and workplace readiness research. Again, religiosity is not universally endorsed, and there are prohibitions against discriminating in college admissions or the workplace based upon religious orientation.

As a consequence of these policies, however, the higher social capital that often accompanies involvement in religious communities—and that can help prepare and connect students to colleges and places of work—may be overlooked as a resource for young people. Similarly, the function of such communities to provide support and guidance to struggling youth may also be overlooked. Even though legal barriers prevent public high schools from helping students develop their religious or spiritual lives, school staff may welcome more emphasis on the development of virtues and character. This may especially be the case, given the evidence that such an emphasis in a school can reduce behavior problems and improve relationships among students and between students and staff.[18] More to the point, this focus may provide a moral compass to some students as they make their transition to college and the workplace. Mindfulness practices, such as meditation, in educational settings that do not have religious overtones are also worth investigating. Recent research finds that they show promise for increasing students' focus.[239]

Special Populations

It is striking how similar themes are found among the needs of low-income and minority, English language learner, immigrant, disabled, disconnected, foster, and sexual minority youth, and how similar competencies are emphasized for these populations within the psychological, social, and cognitive domains.

Among the psychological competencies noted, having high expectations and aspirations for education and career goals is particularly important among at-risk populations, as is a strong identity and self concept. These psychological assets are often fostered in the home, but schools and

mentors can be effective in furthering them or encouraging them to grow when they have been absent. While optimism and hope certainly help youth to have the will to overcome adversity, young people also need to know the specific steps that are necessary to take to improve their chances in life. The ability to plan and to carry out those plans are key competencies that lead to postsecondary education and workforce readiness, yet these are not skills that are typically taught directly by schools, although they could be. Learning strategies such as motivation, self-monitoring, and persistence are important in the development of cognitive skills, as is completing homework assignments and high school graduation requirements. Mentors can also successfully model these strategies as well.

In the social skills area, the importance of social competence, relationships, and support from teachers, guidance counselors, and mentors is cited repeatedly for all of the special populations addressed. This was also the case for feeling connected to school and peers and to the world of work through internships and community service. Researchers suggest a number of ways that high schools can facilitate these connections. They include creating small personal learning environments for low-income and minority youth; providing gender and culturally specific counseling and teaching for minority males; setting up mentoring programs for low-income minority students; and, specifically for males, disabled students, and foster youth, improving college and career counseling, including sharing information on college costs and other hurdles to achieving goals; linking students to employers and colleges through direct experience; and supporting programs for foster youth and sexual minority youth.

In the cognitive domain, emphasis is put on appropriate coursework tailored to the needs of these populations. Specifically, low-income and minority youth need exposure to rigorous coursework and training in technology; and those who are not on the academic track need more vocational courses. English language learners need classes that are tailored to their English-speaking and academic abilities. Students with disabilities need classes in basic and social skills, as well as occupational courses. Disconnected and foster youth need training in social skills, as well as in life skills, so that they can be successful at living on their own, and as a complement to developing cognitive skills through any GED program in which they may be enrolled. However, research has demonstrated the long-term advantages of completing high school and earning a regular diploma, rather than earning a GED. It also shows that GED recipients often lack the social skills that employers value. This finding suggests that, for these populations, more emphasis needs to be placed on alternative programs that lead to the completion of a regular high school diploma and that incorporate social skill development, instead of putting so much emphasis on GED programs.

This report has illustrated the value of a cross-disciplinary approach to facilitating a successful transition to adulthood—whether that transition is to college, the workforce, or a better life as a well-adjusted adult, and whether the youth in question have special needs or circumstances that pose particular challenges. Such an approach reveals a wealth of policy and practice opportunities for high schools, postsecondary institutions, and the education community more broadly—as well as for employers, workforce development and youth development programs—to expand their scope and share knowledge and expectations so that the full range of competencies needed for college, work, and a successful life can be achieved for all.

Chart of Key Competencies

This chart shows each competency mentioned in the report and whether research identifies the competency as critical to healthy youth development, college readiness, or workforce readiness. The order is the same as is mentioned in the report, and it does not imply level of importance. A scale of High, Medium, and Low has been used to identify the extent and strength of research for each competency. Blank spaces in this chart show that no research mentioning that competency was found, not that the competency is unnecessary. Page numbers indicate where the competency is discussed in the report.

Legend: Number of icons indicates the prominence of the competency in the research.

Low (1 or 2 references) | Medium (1 or 2 high-level reports + references) | High (several high-level reports + references)

= Healthy Youth Development | = College Readiness | = Workforce Readiness

HEALTHY YOUTH DEVELOPMENT

PHYSICAL DEVELOPMENT

COMPETENCY	PROMINENCE IN RESEARCH	PG
Healthy Habits		6
Avoiding Risk Behavior		6
Physical Safety		6
Kinesthetic Ability		7

PSYCHOLOGICAL DEVELOPMENT

COMPETENCY	PROMINENCE IN RESEARCH	PG
Positive Mental Health		8
Self-Esteem		8
Positive Identity		9
High Expectations Optimism, Planfulness		9
Resilience, Flexibility		9
Self-management Motivation, Autonomy Initiative		9
Decision Making, Good Judgments		9

SOCIAL DEVELOPMENT

COMPETENCY	PROMINENCE IN RESEARCH	PG
Character		11
Communication Skills		11
Oral Communication Skills		11

COLLEGE READINESS

PHYSICAL DEVELOPMENT

COMPETENCY	PROMINENCE IN RESEARCH	PG

PSYCHOLOGICAL DEVELOPMENT

COMPETENCY	PROMINENCE IN RESEARCH	PG
Self-Esteem		8
High Expectations High Achievement Motivation		9
Self-management Motivation, Persistence, Initiative, Time management		9

SOCIAL DEVELOPMENT

COMPETENCY	PROMINENCE IN RESEARCH	PG
Communication Skills		11
Oral Communication Skills		11

WORKFORCE READINESS

PHYSICAL DEVELOPMENT

COMPETENCY	PROMINENCE IN RESEARCH	PG
Managing One's Health		6
Avoiding Risk Behavior		6
Workplace Safety		7

PSYCHOLOGICAL DEVELOPMENT

COMPETENCY	PROMINENCE IN RESEARCH	PG
Self-Esteem		8-9
High Expectations Optimism, Planfulness		9
Resilience, Flexibility		9
Self-management Motivation, Autonomy, Initiative, Responsibility, Time Management		9-10
Decision Making, Good Work Ethic		10

SOCIAL DEVELOPMENT

COMPETENCY	PROMINENCE IN RESEARCH	PG
Integrity		11
Communication Skills		11
Oral Communication Skills		11

HEALTHY YOUTH DEVELOPMENT

SOCIAL DEVELOPMENT

COMPETENCY	PROMINENCE IN RESEARCH	PG
Using Communication Tools Effectively		11
Social Competence		11
Conflict Resolution		11
Cross-Cultural Competency		12
Ability to Adapt to Different Situations		12
Acting Appropriately in Larger Context		12
Social Support		12
Prosocial Behaviors		12

COGNITIVE DEVELOPMENT

Academic Achievement		13

COLLEGE READINESS

SOCIAL DEVELOPMENT

COMPETENCY	PROMINENCE IN RESEARCH	PG
Effective Written Communication		11
Using Communication Tools Effectively		11
Social Competence		11
Conflict Resolution		11
Cross-Cultural Competency		12
Acting Appropriately in Larger Context		12
Social Support		12
Engagement in School		12

COGNITIVE DEVELOPMENT

Academic Achievement		13
Rigorous Coursework		13-14
High-level Math Courses including Algebra II and especially Calculus		14
Advanced Science Courses		14
4 Years of High School English		14

WORKFORCE READINESS

SOCIAL DEVELOPMENT

COMPETENCY	PROMINENCE IN RESEARCH	PG
Quantitative Communication Skills		11
Persuasiveness, Appropriately Contributing to Group		11
Ability to Assist, Teach Others		11
Listening Skills		11
Effective Written Communication		11
Using Communication Tools Effectively		11
Social Competence		11
Conflict Resolution, Cooperation		11
Cross-Cultural Competency		12
Understand US Norms, Democracy, and Race Discrimination		15
Ability to Adapt to Different Situations		12
Acting Appropriately in Larger Context		12
Engagement in Work		12
Prosocial Behaviors		12

COGNITIVE DEVELOPMENT

Achievement on Employer Exams		13
Rigorous Coursework		14
4 Years High School Math including Algebra II, Geometry, Statistics		14
Advanced Science Courses		14
4 Years of High School English		14

HEALTHY YOUTH DEVELOPMENT

COGNITIVE DEVELOPMENT

COMPETENCY	PROMINENCE IN RESEARCH	PG
Educational Attainment		14
Lifelong Learning Skills		14
Use Knowledge, Information and Technology Interactively		14-15
Creativity		14
Critical Thinking		15
Problem-solving Skills		15

SPIRITUAL DEVELOPMENT

Spirituality		16
Sense of Purpose		16
Religiosity		16

COLLEGE READINESS

COGNITIVE DEVELOPMENT

COMPETENCY	PROMINENCE IN RESEARCH	PG
Understand Research		14
Language, Grammar Skills		14
Attaining a High School Diploma		14
Lifelong Learning Skills, Inquisitiveness		14
Use Knowledge, Information and Technology Interactively		14
Analysis, Evaluative and Critical Thinking		15
Problem-solving Skills		15
Reasoning, Argumentation		15
Foreign Language Skills		15

SPIRITUAL DEVELOPMENT

Spiritual Development		16

WORKFORCE READINESS

COGNITIVE DEVELOPMENT

COMPETENCY	PROMINENCE IN RESEARCH	PG
Understand Research and Technical Material		11,14
Language, Grammar Skills		14
Attaining a High School Diploma or Other Credential		14
Previous Work Experience, Tenure in Workforce		14
Quality of Past Employment		14
Career Planning and Job Search Skills		14
Lifelong Learning Skills		14
Use Knowledge, Information and Technology Interactively		14-15
Creativity, Entrepreneurship		14
Analysis, Evaluative and Critical Thinking		15
Problem-solving Skills		15
Reasoning, Argumentation		15
Foreign Language Skills		15

SPIRITUAL DEVELOPMENT

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