

Identifying At-Risk Factors That Affect College Student Success

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Abstract

All too often, both traditional and non-traditional students face a variety of barriers to learning that put them at risk of failure in achieving their goals. This article explores twenty key factors that impact student learning and success in college as identified in research and practice. Understanding these key risk factors provides a basis for educators to develop student learning skills to enable students to become proficient in addressing their risk factors and to achieve academic success. This paper is intended not only to assist educators in identifying critical risk factors that students face, but also to propose addressing them through a holistic learning process that serves as a solid foundation for lifelong learning and growth.

Introduction

Success in the 21st century requires a rigorous academic education, cutting-edge technical skills, and a foundation that supports continuous learning and growth for college, career, and life. It is important that students are taught how to learn and to address critical at-risk factors that might derail their dreams of college and career success. Students who lack a foundation in knowing how to learn are closed out of significant economic, academic, and social opportunities. In fact, lifelong learning is a major interest both nationally and globally (Cornford, 2002). The Manhattan Institute for Policy Research (Greene & Forster, 2003) estimated that nationally only 70% of all students in public high schools graduate and only 32% of all students leave high school qualified (or “college ready”) to attend four-year colleges. The authors specifically focused on the issue of public high school graduation and college readiness rates in the United States using U.S. Department of Education data. The term “college ready” refers to applicants who pass the minimum requirements for college consideration: (1) graduation from high school, (2) completion of courses that colleges require for the acquisition of academic skills, and (3) demonstration of basic literacy skills. Far too many young people graduate from high school with big dreams for the future but without the solid academic foundation or learning skills they need to achieve them.

The National Center for Educational Statistics in *The Condition of Education* (Kena et al., 2014) states that the 2012 graduation rate for first-time, full-time undergraduate students who began their pursuit of a bachelor’s degree at a 4-year degree-granting institution in fall 2006 was 59 percent within six years, the normal time for completion (based on the requirements of the 1990 Student Right to Know Act). During the same period, data from the National Center for Educational Statistics (2006-2012) show that the student retention rate was 71.8% for first-time full-time students at all postsecondary institutions

and 42.2% for part-time students. Without significant change, the federal goal of having the world’s highest rate of college completion by 2020 will not be achieved (Advisory Committee on Student Financial Assistance, 2012). *Pathways to Success* (2012), a report to the U.S. Congress and the Secretary of Education, states that the nation’s global competitiveness is threatened by stagnant or declining college completion rates. Income inequality, one of several high risk factors, is impacting completion rates, particularly among young Americans and non-traditional students. This paper identifies several key high-risk factors that impact first-year college students and explores those behaviors within the context of non-cognitive success factors.

Lack of readiness for college places students at risk of failing courses and dropping out of college, temporarily or permanently, particularly during their first year of enrollment. In addition, many students who are returning to school after an extended period of time due to other responsibilities, such as family and jobs, do not have the academic skills to navigate the educational landscape effectively. There is much work to be done if higher education is to help students be successful.

Risk Factors

What Are Risk Factors?

According to *The Glossary of Education Reform*, the term *at-risk* is frequently used to describe individual students or groups of students “who are considered to have a higher probability of failing academically or dropping out of school.” The term may be applied to students who face circumstances or characteristics (factors) that could jeopardize their ability to achieve academic goals or complete school, such as homelessness, incarceration, teenage pregnancy, serious health issues, domestic violence, or transiency, or it may refer to learning disabilities, low test scores, disciplinary problems,

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grade retentions, or other learning-related factors that could adversely affect the educational performance and attainment of some students (edglossary.org). The higher education literature defines *at-risk* as a term with origins in K-12 education meaning students who “are poorly equipped to perform up to academic standards” (Quinnan, 1997). This reference includes adult or non-traditional students, as well as high school students and graduates. Quinnan stresses that adult students are at risk and they “have been and remain marginalized in academic institutions because of the persistence of a deeply rooted culture bias” (Adult Students “At-Risk”: Culture Bias in Higher Education, 1997). Adult students in higher education encounter multiple organizational, instructional, and interpersonal barriers in reaching their educational goals. Bulgar and Watson (2006) posit that the definition of *at-risk student* should be expanded to include the combination of background characteristics (including technology proficiency), internal characteristics, and environmental factors into a single definition.

At-Risk Factors in High School

Horn (1997) defined an at-risk student as one who has risk factors such as being from a single parent household, having an older sibling who dropped out of high school, and earning low grades between sixth and eighth grades. This longitudinal study documented that at-risk high school graduates leave college at substantially higher rates than their counterparts who are not at risk. High school students who are at risk

come from all socioeconomic levels; however, those who drop out of high school tend to be male, poor, from single-parent families, and African Americans, Hispanics, and Native Americans (Ormrod, 2012).

To determine significant factors related to high school graduation or school dropout, Hammond, Linton, Smink and Drew (2007) assessed available research on risk factors up to December 2005. The resulting technical report on *Dropout Risk Factors and Exemplary Programs* identified some overall trends that emerged from the literature, including classification into four domains: individual, family, school, and community factors. The study emphasized that (a) dropping out of school is a process of disengagement over an extended period of time; (b) students have multiple risk factors across multiple domains; and (c) the greater the number of risk factors a student has, the greater their probability of dropping out of school. Analyses of the research led the Dropout Prevention Center to focus on two areas of significance: individual and family domains (See Table 1).

Some students exhibit high-risk behaviors that can adversely affect their overall development and well-being as youth, or that might prevent them from future successes and development (Guzman & Pohlmeier, 2007, 2014). These behaviors may cause immediate physical injury (e.g., fighting), as well as cumulative negative effects (e.g., substance use). In addition, high-risk behaviors can disrupt the normal

Table 1 Significant Risk Factors for Dropping Out of High School

INDIVIDUAL DOMAIN	<p>Individual Background Characteristics</p> <ul style="list-style-type: none"> • Learning disability or emotional disturbance <p>Early Adult Responsibilities</p> <ul style="list-style-type: none"> • High number of work hours • Parenthood <p>Social Attitudes, Values, & Behavior</p> <ul style="list-style-type: none"> • High-risk peer group • High-risk social behavior • Highly socially active outside of school <p>School Performance</p> <ul style="list-style-type: none"> • Low achievement • Retention/over-age for grade 	<p>School Engagement</p> <ul style="list-style-type: none"> • Poor attendance • Low educational expectations • Lack of effort • Low commitment to school • No extracurricular participation <p>School Behavior</p> <ul style="list-style-type: none"> • Misbehavior • Early aggression
	<p>FAMILY DOMAIN</p> <p>Family Background Characteristics</p> <ul style="list-style-type: none"> • Low socioeconomic status • High family mobility • Low education level of parents • Large number of siblings • Not living with both natural parents • Family disruption 	<p>School Behavior</p> <ul style="list-style-type: none"> • Misbehavior • Early aggression • Low educational expectations • Sibling has dropped out • Low contact with school • Lack of conversations about school

development of youth. These behaviors can prevent them from participating in experiences characteristic for their age group. For example, teen pregnancy can preclude youth from experiencing events such as developing strong peer friendships, participating in club events/travel, attending the prom, or graduating from school.

At-Risk College Students

Students can be considered at-risk for achieving academic success in higher education for a variety of reasons. At-risk students may be (a) those who have made poor choices or decisions that negatively impacted their academics, (b) adult students who return to higher education after an extended absence, or (c) students with academic or physical limitations not identified before enrolling in higher education. The skills, knowledge, motivation, and/or academic ability of these students are significantly below those of the “typical” college student (Walsh, 2003; Maxwell, 1997). Further, at-risk students are likely to display a variety of other characteristics such as believing that learning is memorizing, having unrealistic grade expectations, articulating unrealistic career expectations, having low self-efficacy, being motivated by external influences, possessing low academic self-concepts, and having inadequate study skills for college success (Walsh, 2003; Ender & Wilkie, 2000).

Controlling for racial-ethnic group differences, Chen and Kaufman (1997) considered students at-risk if they had one or more of the following characteristics: low socio-economic status, being from a single parent family, having an older sibling who dropped out of school, having changed schools two or more times, having had average grades of “C” or lower, and having repeated a grade between sixth and eighth grades. Study results indicated that those identified as at-risk in high school remain at-risk when they seek entry into post-secondary institutions because they are less likely to: (a) aspire to attend college by 10th grade, (b) be academically prepared, (c) take entrance exams, and (d) apply to four-year colleges, if they took entrance exams.

King (2004) categorized at-risk students as falling into four groups: (1) those who are academically underprepared as a result of poor educational experience (poor preparation, low expectations, or academic failure); (2) those who have individual risk factors such as cognitive, health, neurological, or psychological factors that can contribute to academic failure (e.g., traumatic brain injury, learning

disabilities, chronic illness, psychological problems, or student attitude toward learning); (3) those with familial risk factors such as troubled household functioning, dependent care issues, values concerning education, and lack of financial resources; and (4) those with social risk factors, such as conflicting ethnic or cultural values or traumatic peer exchanges and social interactions. Keeling (2003) adds another group to the at-risk list: the Millennial generation: students who graduate high school in the 21st century, often entering postsecondary institutions lacking educational planning skills.

Categories of Risk Factors

Multiple risk factors impact college persistence and success, particularly during the first year of college enrollment, across types of postsecondary institutions. These include, but are not limited to, academic under-preparation, completion of high school by GED, poverty, being a first-generation college student, being a minority student, having limited English proficiency, having older siblings who dropped out of high school, lacking knowledge about college admissions/matriculation, caring for a child, delayed entry into post-secondary education and financial independence. As a general rule, students who are considered to be at risk of failure or dropping out of college experience multiple risk factors. Table 2 provides a summary of key risk factors from a variety of sources, such as *College Access and Success, Social Issue Report* (2010), the *Community College Survey of Student Engagement* (2003), www.bridgespan.org, *College Knowledge for College Success* (2009), *University of District of Columbia, Learning-to-Learn Camp Project Report* (2006); Bulgar and Watson (2006); gocollege.com (2007); stateuniversity.com (2014); Quinnan (1997); and edglossary.com (2014). These factors are categorized as background, behavioral, internal, and environmental characteristics.

Over the past three-plus decades, beginning in the 1980’s, attrition has been increasing at public and private, two-year, and four-year institutions, with over 50% of students dropping out in their first year of study (*Postsecondary Education Opportunity*, 2002). According to ACT (2010), this has resulted in first-year to second-year retention rates of about 56% at community colleges, approximately 73% at private four-year institutions, and 74% at four-year public institutions. In an attempt to increase retention, a variety of interventions have been implemented to decrease student attrition, ranging from academic advising to early alert systems. The desired outcome for each of these strategies is student academic success, which in turn would lead to greater institutional success.

We continue to hear that student success and persistence through degree attainment is vital to our society and our economy. A well-educated, well-trained workforce will enable us to compete globally (ACT, 2007). It is anticipated that each graduate will have acquired the knowledge and skills to be successful in the marketplace. In exploring issues of college success, ACT (2007) posited that “The key underlying constructs associated with readiness and success are: cognitive development, as measured by academic learning and achievement; psychosocial development, as measured by motivation,

self-regulatory and social engagement constructs; and career development, as reflected in an ability to engage in exploration, crystallization and effective decision-making. These three constructs are essential to readiness and success as they reflect subject-matter mastery, general work attitude, and effective career decision-making, respectively” (p.2). Education should result in a quality learner or a student who exhibits definable behaviors that optimize learning and predict successful performance in school, career, and life (Nancarrow, 2007).

Table 2 Risk Factors Impacting College Persistence and Success

Background Characteristics	
Older student History of academic failure Academic unpreparedness Socio-economic status Physically challenged Emotionally impaired; domestic violence Cultural/language barriers Technology skill limitation Study behaviors	First generation college student Minority group Family issues; parenting deficiencies Sibling dropped out of high school Financial constraints; poverty Non-supportive home environment Homelessness/Transiency (migrant-worker families) Incarceration Lack knowledge of college admissions/matriculation
Individual Characteristics	
Task values (interest, importance, utility) Unrealistic goals; Lack of goal clarity Personal autonomy or independence Self-confidence (insecure public speaker) Low level of self-respect or self-esteem Weak self-concept (judgmental; afraid of failure) Social competence; Limited key social skills Self-efficacy Lack of motivation for performing well Lack of strong support group Learning or Physical Disabilities (diagnosed or undiagnosed) Underprepared for current academic challenges (memorization; knowledge transfer; metacognition)	Serious health or substance abuse issues Lack of school engagement Limited communication skills Emotional, psychological, or behavioral problems Passive aggressive attitude Lack of strong role models/mentors Lack self-discipline Low academic demand expectation (fixed mindset; unchallenged) Teacher pleaser Childcare responsibility Negative social network (friends) or cultural norms Lack understanding of available financial resources Procrastination
Environmental Factors	
Transportation time and costs College financial cost Study environment Student support services (access & under-utilization) Advisor advice & support Course offerings (remedial; flexible) Adequate facilities	Internships & field placements Negative peer culture (ostracizes successful students) Racism or Sexism College evaluation culture bias; poor academic fit No individual guidance or mentoring Broken college relationships Workforce issues (short or long term)

Key Risk Factors and Success

A number of researchers have explored risk factors and their impact on student persistence, retention, and success. The University of Chicago partnered with the Lumina Foundation and Raikes Foundation to create a report exploring non-cognitive factors that impact student success: *Teaching Adolescents to Become Learners - The Role of Non-Cognitive Factors in Shaping School Performance: A Critical Literature Review*. Farrington et.al. (2012) found that there were five categories of non-cognitive factors related to successful academic performance: academic behaviors, academic perseverance, academic mindsets, learning strategies, and social skills. These success categories are congruent with Nancarrow's (2007) Profile of a Quality Learner. She identifies six areas (with related behaviors) that determine the quality of successful student performance: information processing; values; learning skills; interpersonal skills; intrapersonal skills; and thinking skills. These skills are integral to Process Education, which responds to a societal need for quality learners and performers with activities that address each aspect of the learner profile (Beyerlein, Schlesinger & Apple, 2007; Nancarrow, 2007).

Working with educators over the past two decades, Apple identified multiple significant risk factors that need to be addressed to ensure student success. For example, in working with the University of the District of Columbia in 2005, he guided educators in identifying and addressing a variety of risk factors that impacted their students' success as part of a Learning-to-Learn Camp experience. The camp focused on development of skills for students to become effective academic performers and employees. Risk factors included lack of motivation for performing well, low level of self-respect and self-esteem, limited key social skills, lack of goal clarity, limited communication skills, lack of strong role models, being underprepared for current academic challenges, having significant psychological problems, and lack of strong support groups (University of the District of Columbia, 2006.) These factors are consistent those addressed in the development of a quality performer as identified in the quality learner profile (Nancarrow, 2007).

Twenty key risk factors (or behaviors) that place students at risk of failure are listed in Table 3, organized by the four noncognitive success factors identified previously: perseverance, academic mindset, learning skills and social skills. This section will explore research on each factor and its relationship to learner academic success.

Factors Related to Academic Perseverance

Academic perseverance is that quality that allows someone to continue trying to do something even though it is difficult (*Merriam-Webster Dictionary*, 2014). Research citations address the following high-risk behaviors: self-discipline or self-control, procrastination, irresponsibility, financial and/or time constraints and critical personal factors.

Lacks Self-Discipline — The capacity to alter one's behavior is known as self-discipline, self-control, or self-regulation (Baumeister, 2002). When the self is not controlled, the results are focused on immediate gratification as opposed to future goals or increased rewards, such as completion of a college degree (Strayhorn, 2002). When examining multiple variables, studies have found that self-control was a robust predictor of students' level of academic success, measured by their GPA (Cantwell & Moore, 1996; Wolfe & Johnson, 1995). Students who lack strong control of their behavior in strengthening their academic performance are less likely to persist, have interpersonal success, attain good grades and remain in college (Mansfield, Pinto, Parente, & Wortman, 2004; Tangney, Baumeister, & Boone, 2004).

Procrastinates — Achieving academic success requires perseverance in addressing personal behaviors as well as those factors that impede success. Academic procrastination is multifaceted, having cognitive, affective, and motivational dimensions (Sokolowska, 2009) that affect most students. Research on the cognitive aspects of procrastination examines why a student delays action, examining the intention versus the behavioral delay in completing a task (Blunt & Pychyl, 2000; Ferrari, 2000). Procrastination relates to the process of delaying decisions, which can become chronic and ineffective. In contrast, a functional delay helps to achieve an anticipated objective (McCown & Roberts, 1994; Ferrari, 2000). The research suggests that students learn how to manage procrastination through a metacognitive process as they spend more time in college, which allows them to complete a specific task on time (Sokolowska & Zusho, 2006; Chu & Choi, 2005; Beyerlein, Schlesinger, & Apple, 2007). On the affective side, procrastination can become an escape from emotional distress caused by the task to be completed (Ferrari & Tice, 2000). Procrastination may also serve to regulate negative emotions by generating positive feelings about engagement in some other more enjoyable activity instead of the avoided task (Silver & Sabini, 1991).

Table 3 Critical At-Risk Behaviors That Impact College Success

PERSEVERANCE	<p>1 Lacks Self-Discipline <i>Easily distracted by social situations & opportunities for immediate gratification, putting off critical work</i></p> <p>2 Procrastinates <i>Puts off all work that doesn't need to be done immediately</i></p> <p>3 Irresponsible <i>Blames others for personal faults or failures; relies on others to make their decisions (helicopter parents)</i></p> <p>4 Afraid of Failure <i>Shies away from situations where expectations are challenging & the probability of meeting them is low</i></p> <p>5 No Sense of Self-Efficacy <i>Often feels overwhelmed, powerless, and/or victimized; "There's nothing I can do to change things"</i></p>
ACADEMIC MINDSET	<p>6 Financial Constraints <i>Often runs out of money; doesn't appreciate opportunity costs (e.g., getting a job to obtain more money means less available time for things like school)</i></p> <p>7 Unmotivated <i>Listless and disinterested, finding little meaning in current activity and work</i></p> <p>8 Aimless (No Clear Direction/Goals) <i>Deals with life reactively, hoping and wishing for change, but never planning or working for it</i></p> <p>9 1st Generation College Student <i>Uses high school experience as the basis for setting expectations for college (parents are unable to provide a frame of reference for a realistic college experience)</i></p> <p>10 Fixed Mindset <i>Accepts current performance level as permanent; lives up/down to projected performance/labels (e.g., "C-student")</i></p>
LEARNING STRATEGIES	<p>11 Teacher Pleasers <i>Constantly seeks direction from authority/teacher in order to please them; uses compliments to make the teacher happy and generous with grades (i.e., brown nosing)</i></p> <p>12 Unchallenged (bored) <i>Feels that the learning challenges are far beneath their level of ability</i></p> <p>13 Memorizes Instead of Thinking <i>Sees knowledge as sets of facts and data that should be memorized</i></p> <p>14 Doesn't Transfer/Generalize Knowledge <i>Approaches each learning challenge as new & unique; fails to recognize old knowledge in new contexts</i></p> <p>15 Highly Judgmental/Negative of Self <i>Constantly self-critical, seeing only mistakes and failures; not appreciating growth or improvement</i></p> <p>16 Minimal Metacognitive Awareness <i>Unaware of one's own thought process; cannot articulate the process for or approach to making decisions or solving problems</i></p>
SOCIAL SKILLS	<p>17 Non-Team Player <i>Disrupts groups, becoming either antagonistic/argumentative or silent (disengaged)</i></p> <p>18 Insecure Public Speakers <i>Afraid of speaking in public; avoids speaking out in class</i></p> <p>19 Lacks a Support System <i>Does not engage with others to address current or future social/psychological challenges; engages in negative behaviors (e.g., alcohol or drug abuse, violence, crime, etc.); "I'll solve my own problems"</i></p> <p>20 Lacks Mentors/Role Models <i>Has no one from whom to seek advice or who could assist with career direction and educational goals</i></p>

Irresponsible — College students are expected to take responsibility for their learning, including class attendance, timely completion of course assignments, and time management. The college environment is a direct contrast to expected high school student behaviors and experiences. Thus, it can be overwhelming for some students (Mullen, 2008). Some students are irresponsible because they have not had to accept responsibility for their actions, critical school choices, or life decisions because their parents have assumed this role on a continuous basis. A recent article in the *Washington Post* entitled “How Parents are Ruining College Students” (September, 2014) illustrates how some parents contact the college directly when a student is having a problem with a roommate or similar issues that are a part of college environment. According to Joyce (2014), students who have been “raised by parents who watched their every move, checked their grades online hourly, advocated for them endlessly and kept them busy from event to activity to play date are tucked away in college. But that doesn’t mean their parents have let go. They make themselves known to schools, professors, counselors and advisers. And yes, college presidents.” Failure to allow students to become independent and responsible individuals places them at risk of failure in school and life.

Critical Personal Factors — Personal factors relate to the student’s life situation; they may create stress and challenges as they transition into college. While some students experience this transition as a challenge to their personal growth, other students are overwhelmed by the changes and experience emotional maladjustment and depression. Without a sense of self-efficacy, personal factors can be a significant impediment to performing well.

Complex psychological histories often underpin problems of maladjustment, further complicating treatment by campus professionals due to the immediate relevance to college success. An alarming number of young people enter higher education with dysfunctional family backgrounds that evoke stress and trepidation. Emotional, physical, and sexual abuse; substance abuse; domestic violence; and mental illness are common issues (Dixon & Reid, 2000). The majority of injuries, accidents, vandalism, sexual assaults and rape, fighting, and other crimes on and off college campuses are linked to alcohol and other drug use (Gilchrist, 2014). Given these factors, college students are twice as likely to have clinical depression compared to people of similar ages and backgrounds in the workforce (Dixon & Reid, 2000). These difficulties appear to be inefficiencies

in coping with familial separation, time and stress management, basic study techniques, goal setting, relationship formation, handling emotions, and self-esteem crystallization. Personal, academic, social, and professional success depends on the student’s ability to manage these aspects of their lives (Apple, Morgan, & Hintze, 2013).

Financial/Time Constraints — Research conducted by the American Federation of Teachers (2011) found that two of the largest concerns for students include having enough money and financial aid to attend school and finding time and “balance.” Community college and technical college students reported more immediate concern for fiscal resources in their quest for educational success than four-year university students. Time was one of the most valuable and scarcest resources. Since time is finite, students reported that not having enough time worked against them. They reported competing needs for use of their time: being a student, taking care of family responsibilities, and working and earning money. All student groups stated that they struggle constantly with balancing their responsibilities in order to get everything done.

Risk Factors Related to Academic Mindsets

An academic mindset relates to students’ beliefs about their intelligence or academic ability, which influences their academic tenacity. Short and long-term success is significantly impacted by one’s strength of belief in one’s self or sense of self-efficacy (Apple, Morgan, & Hintze, 2013). Research shows that students’ belief in their ability to learn and perform well in school—their *self-efficacy*—can predict their level of academic performance above and beyond their measured level of ability and prior performance (Bandura, 1997). Research citations address the following high-risk behaviors: lack of motivation, lack of goal clarity, 1st generation college student, and fixed mindset.

Lack of Motivation — There are multiple reasons why at-risk students may be unmotivated. Wright (2012) identifies six key reasons why students are not motivated to perform: (1) inability to do the assigned work due to lack of essential skills required, such as basic academic skills, cognitive strategies, and academic-enabler skills; (2) “response effort” needed to complete the assigned work seems too great, although the student has the required skills; (3) classroom instruction and learning activities do not engage them; (4) failure to see an adequate pay-off to doing the assigned work, such as praise, access to rewards, or other short-term “pay-off” to encourage

them to apply greater effort; (5) low self-efficacy—lack of confidence that they can do the assigned work in a subject area, activity, or academic task, which reduces motivation; and (6) lack of positive relationship with the teacher.

Lack of Direction/Clear Goals — Noel (1985) asserts that the most frequent reasons that talented students give for dropping out of college are lack of clear goals, uncertainty about a major program of study, and boredom, which results from lack of goal clarity. Anderson (1985) underscores this statement by suggesting that uncertainty and indecision about career plans is a negative personal barrier to persistence for undecided students. Typical undecided students lack goals and direction, which is a reason why these students leave college. Sprandel (1985) contends that a major reason why students drop out is the inability to succeed academically. For vocationally and educationally uncertain students, another cause for academic failure is that they lack an educational purpose.

The majority of new students entering higher education leave their initial college of enrollment without completing a degree (Tinto, 1993). Attrition rates have been increasing nationally since the early 1980s at two-year and four-year institutions, both public and private (*Postsecondary Education Opportunity*, 2002). At all types of higher education institutions, including highly selective colleges and universities, the most critical period of vulnerability for student attrition continues to be the first year of college (Pew Higher Education Round Table 1991). Retention research suggests that the strongest factor associated with persistence to degree completion is student commitment to educational and career goals (Wyckoff, 1999).

First-Generation College Student — First-generation college students may be less equipped for college due to poor academic preparation in high school (Dennis, Phinney, & Chuateco, 2005). Since the parents of first-generation college students lack first-hand knowledge of the college experience, these students have a major hurdle to overcome in navigating the educational system (Zalaquett, 1999). According to Housel (2012), first-generation students are more likely to encounter academic, financial, professional, cultural, and emotional difficulties because their parents cannot help them directly with college tasks. More than a quarter of low-income, first-generation college students leave after their first year, and 89 percent fail to graduate within six years. This is a significant issue

that needs to be addressed, given that nearly one in three students entering college as freshmen in the U.S. is a first-generation college student and this population is growing (Paul, 2012).

Fixed Mindset — According to Dweck & Leggett (1988), a central factor in the resilience of ethnically and economically diverse students is their mindset about intelligence. Students may view intelligence as a fixed quantity that they either possess or do not possess (a fixed mindset) or as a malleable quantity that can be increased with effort and learning (a growth mindset). Students with a fixed mindset believe that their intellectual ability is a limited entity, and they tend to worry about proving it rather than improving it. They tend to be overly focused on short-term concerns about their ability and view academic setbacks as evidence of a lack of ability. When their ability is threatened (or undermined), they often withdraw their effort, which impairs their academic achievement. Students with a fixed mindset are less likely to welcome challenges that might reveal shortcomings. However, students with academic tenacity have the ability to rise above immediate concerns and respond to academic setbacks with resilience (Dweck & Leggett, 1988; Dweck, Walton, & Cohen, 2014).

Where do these mindsets come from? In 1998, researchers Mueller and Dweck conducted six experimental studies with ethnically, racially, and economically diverse 5th grade students. Their research showed that praise, although subtle, could have dramatic effects on students' mindsets and resilience. Praising students for their ability taught them a fixed mindset and created vulnerability, but praising them for their effort or the strategy they used taught them the growth mindset and fostered resilience. Educational interventions and initiatives that target psychological factors can transform students' experience and achievement in school, improving core academic outcomes, such as GPA and test scores, months and years later. In essence, educators should promote the development of mindsets and skills that motivate students to strive for improvement.

Risk Factors Related to Learning Strategies

Learning strategies are approaches used by individuals to actively learn or facilitate acquisition, understanding, transfer of new knowledge and skills, and to use information to solve problems and be successful. Students who do not know or use good learning strategies often learn passively, and ultimately fail in school (Center for Research on Learning, 2014). Research citations address

the following high-risk behaviors: being a teacher pleaser, being unchallenged, memorizing, lacking the ability to generalize, being self-judgmental, and having minimal cognitive awareness.

Teacher Pleasers — Some students demonstrate a desire to please their teachers, which influences beliefs about themselves. In fact, students are more apt to pursue their academic work and to experience a strong sense of belonging in their classrooms when they perceive that teachers are supportive and genuinely care about their academic and personal wellbeing (Pianta & Walsh, 1996; Solomon, Battstich, Kim, & Watson, 1997). Teachers serve as important role models and influential facilitators of learning (Trickett & Moos, 1973). In a recent study of fifth-grade students' perceptions of the classroom social environment, Patrick, Kaplan, & Ryan (2007) found that the quality of the student-teacher relationship is dependent upon students' perception of mutual respect, academic support, interaction, and emotional support. Students are more willing to engage in task-related interactions when these variables are fulfilled. Guttman and Midgley (2000) demonstrated this point in their research on low socio-economic African American middle school students, where they found that academic achievement increased based on perceived teacher support and feelings of belonging.

Unchallenged (Bored) — Some students are at risk because they are unchallenged or bored by the curriculum. When a school fails to adjust the curriculum or delivery process to meet the needs of talented or gifted students, they become bored and academically unchallenged. Boredom leads to lower participation in class, diverted attention, and apathy towards achievement, resulting in high levels of underachievement. In some cases, being unchallenged leads to a student dropping out of school.

A teacher's relationships, behaviors, and expectations of students can contribute to underachievement, particularly among gifted students. In some instances, teachers may fail to recognize diverse learning styles or gifted abilities and talents for a variety of reasons. If a student acts out or simply does not pay attention, the teacher may see the behavior as a problem rather than understanding that the student is unchallenged or needs greater academic attention (Baker, Bridger & Evans, 1998; Seeley, 2004).

Memorizes Rather than Thinks — Approaches to learning describe what students do when they go about learning and why they do it, whether deeply or on the surface (Houghton, 2004). In a surface approach to

learning, students are aiming to reproduce material in a test or exam rather than actually understand it (memorization). Memorization is a common practice for students. Surface learning is the tacit acceptance of information and memorization as isolated and unlinked facts. It leads to superficial retention of material for examinations and does not promote understanding or long-term retention of knowledge and information. In contrast, in a deep approach to learning, students are aiming for understanding (using a critical thinking process). Deep learning involves (a) the critical analysis of new ideas, linking them to already-known concepts and principles; and (b) understanding and long-term retention of concepts so that they can be used for problem solving in unfamiliar contexts. Engaging students in deep learning promotes understanding and application for life. The design of learning opportunities encourages students to adopt a particular learning process, whether fixed or growth-oriented (Houghton, 2004; Redfield & Lawrence, 2009; Apple, Morgan, & Hintze, 2013). Engagement in complex thinking and reasoning should be the primary goal of higher education rather than "memorized knowledge," according to Fink (2003).

"Too many facts, too little conceptualizing, too much memorizing, and too little thinking." — Paul Hurd, the Organizer in Developing Blueprints for Institutional Change

Not Knowing How to Learn — Few students know how to learn or to think well within various disciplines and across domains of knowledge and experience (Foundation for Critical Thinking, 2013). Few students are able to think contextually (philosophically, artistically, chemically, etc.) despite having taken multiple classes. Although students study literature, poetry and science, they do not learn how to think in a literary, poetic, or scientific way. They do not know how to think while in the process of reading, writing, or listening. Consequently, they are poor readers, writers, and listeners. They use words and ideas, but do not know how to think ideas through and internalize foundational meanings. They take classes but cannot make connections between the logic of a discipline and what is important in life. Even the best students often have these deficiencies. In other words, they do not know how to learn and increase their academic achievement and quality of life.

Students should be taught how to think in conceptual and critical terms about what they are engaged in, regardless of academic content (Hilliard, 1990). Students who are at risk are often given a watered-

down version of the curriculum that emphasizes basic academic skills; however, they need to be challenged beyond learning the basic skills with a focus on excellence (Ogle, 1997). Title I legislation, which supports the academic improvement of elementary and secondary school education, dictates that all students should receive an education that develops their skills in problem solving and advanced thinking. However, Means and Knapp (1991) highlight that the dominant approaches to teaching at-risk students offer minimal strategies to support the growth of reasoning, problem solving, and independent thinking. Only modest gains have been achieved by focusing on basic skills before providing more challenging materials rather than the positive gains that are essential for completing complex tasks both in and out of school. Based on current understandings of learning, an integrated approach to instruction with meaningful, authentic tasks is being proposed for at-risk students. As students learn, they concurrently use basic skills and higher level thinking skills. All students need to be able to interpret, analyze, solve problems, and make sense of what they are learning. In a thinking curriculum, students are encouraged and expected to use such advanced thinking skills.

Judgmental/Self-Evaluators — Continuous negative self-evaluation can create significant risks for students, such as fostering low self-esteem and depression because students have not met their own standard of performance. When self-judgmental individuals encounter situations in which their rules or assumptions are broken, negative beliefs are activated and they evaluate themselves in a negative manner (Center for Clinical Interventions, 2005). With each occurrence, such students evaluate themselves in a negative, sometimes harsh and critical manner. They often tag themselves with derogatory and hurtful labels, chastise themselves for not meeting personal standards, and make sweeping generalizations about themselves based on specific events, such as seeing everything as ruined. Negative evaluators may also engage in unhelpful behaviors, such as isolating from family and friends, neglecting opportunities, responsibilities, or self-care, and behave passively rather than assertively with others.

In a study of students and general coping ability, Epstein (1992) determined that students' coping abilities are directly related to their ability to think constructively, even in unfavorable situations. Poor constructive thinkers tended to be more negative in their self-evaluations and overgeneralized situations that impacted them. Selective bias toward making

negative self-inferences has implications for student coping ability, which could lead to low self-esteem and depression.

Minimal Metacognitive Awareness — Speaking to the issue of reconnecting at-risk students to the learning process, Hilliard (1990) pointed out that research findings are helping educators recognize the need for students to take an active role in the learning process. Students who are responsible for their own learning actively plan, organize, and evaluate their progress. At-risk students can become more active, strategic learners when they (a) understand learning process methodology and (b) develop the ability to think about their own thinking and learning or metacognition. With metacognitive awareness, students can actively plan how to learn, monitor their progress, and evaluate their own achievements while engaged in a variety of learning activities (Redfield & Lawrence, 2009; Apple, Morgan, & Hintze, 2013).

According to Blackburn (2006), only about 25% of all students spontaneously generate and apply metacognitive approaches in instructional settings. As the executive function of the human intellect, metacognition is a mediating process that includes the ability to predict performance, monitor activity, and understand content (Blackburn, 2006). It also allows individuals to organize information to know when, what, and how to remember. Metacognition further involves the act of “thinking about how one thinks,” or knowledge and cognition about cognitive phenomena. In essence, metacognition allows individuals to not only acquire content knowledge but also learn about themselves within the context of that content (Apple, Morgan, & Hintze, 2013). However, college students are not (a) learning basic general knowledge, (b) developing higher-level cognitive skills, or (c) retaining their knowledge very well. In fact, there is no significant difference between the performance of students who take courses and students who do not (Fink, 2003).

Academically successful students spontaneously generate strategic methods for attacking, encoding, storing, and retrieving academic content. Students who are academically at risk or who possess specific learning disabilities do not systematically attack or process academic content. Research has indicated that metacognitive strategies can be taught and can have a positive impact on student performance. Brain science research over the past 20 years indicates that educational methods should be consistent with the way the brain is organized and that learning opportunities

must be related to a knowledge goal at appropriate developmental times (Bransford, Brown, & Cocking, 2000). Approaches developed from research in metacognition are more consistent with how the human brain operates than more traditional approaches to instruction. “Brain-friendly” instruction allows for more effective processing of content information and, by definition, more rapid and extensive intellectual growth (Blackbourn, 2006). Metacognition as the basis for intervention and instruction holds promise for educational institutions.

Understanding that a person’s ability to learn is mutable (not fixed) can have a profound impact on students’ learning (Lovett, 2008). Teaching students to be strategic learners is one of the most valuable skills educators can give them. High-performing students engage in metacognitive activities, monitoring and adjusting their learning strategies. When these self-regulating behaviors are taught to students, it results in improved classroom performance (Lovett, 2008).

Risk Factors Related to Social Skills

Social skills are components of behavior that help an individual understand and adapt across a variety of social settings. Steedly, Schwartz, Levin and Luke (2011) define social skills as “a set of competencies that (a) allow an individual to initiate and maintain positive social relationships, (b) contribute to peer acceptance and to a satisfactory school adjustment, and (c) allow an individual to cope effectively with the larger social environment” (p.27). Social skills can also be defined within the context of social and emotional learning — recognizing and managing our emotions, developing caring and concern for others, establishing positive relationships, making responsible decisions, and handling challenging situations constructively and ethically (Zins, Weissbert, Wang, & Walberg, 2004). With this understanding, researchers and educators seek to evaluate and build students’ social skills within a variety of social contexts (Steedly, et al., 2011). Research citations below address the following high-risk behaviors: failure to operate as team member, insecure in public speaking, lack of support system and lack of mentors or role models.

Non-Team Players — Teamwork is not only about achievement of outcomes; it is also about utilizing diverse team skills and experiences, developing life skills and working in a positive and effective manner with others. Often student teams develop problems with one or more of their members. The most common problems involve team members (non-team players) who refuse to do their share of the work but try to get

the same grades as their more responsible teammates; domineering team members who try to coerce the others into doing everything their way; resistant team members who resent having to work in a team and refuse to participate or in other ways try to sabotage the team effort; and team members with widely divergent goals—some wanting an A no matter what it takes, others wanting to do just enough to get a C. To counter this situation, Oakley, Brent, Felder, and Elhajj (2004) propose that teams be limited to three to four members that are diverse in ability, gender, and ethnicity and who have the time to meet outside of class. Team heterogeneity is critical for inclusion of at-risk minority students to prevent isolation and for weaker students to observe, learn, and model effective learning approaches.

Insecure public speakers — Public speaking in the classroom has been shown to have a great impact on socially phobic students and their ambitions to pursue education and participate in classes (Wallace, 2014). Public speaking is usually near the top of any list of activities that most individuals dislike, fear, or avoid. Unfortunately for college students, public speaking is also a class that is frequently required or recommended by their universities. In 2006, more than half of the basic communication courses surveyed had a public speaking focus, rather than a hybrid, interpersonal, or small group focus (Morreale, Hugenberg, & Worley, 2006). According to McCroskey and McCroskey (2002), all students involved in public speaking courses experience some degree of communication apprehension, while 20% suffer communication apprehension of a serious nature (Vevea, Pearson, Child & Sendlak, 2010). In a study exploring predictors of communication in public speaking classrooms, researchers found that individuals who are female and who perceive communication to be rewarding have higher levels of communication apprehension. Furthermore, individuals who avoid communication encounters, as well as those with lower self-esteem, also have higher levels of communication apprehension (Vevea, et al., 2010).

Lacking a Support System — According to research from Johns Hopkins Children’s Center (2010), the University of Maryland, and other institutions, it appears that lack of social support can lead to depression and precipitate suicidal thoughts and behavior in some college students. The College Life Study researchers conducted in-depth face-to-face interviews and annual follow-up interviews with more than a thousand incoming freshmen at a large public university in the mid-Atlantic. The study, published in the *Journal of*

Affective Disorders, followed the students throughout their four years of college, identifying factors linked to suicidal thinking and highlighting the importance of spotting high-risk students early and referring them for treatment. Suicide is the second leading cause of death among college-age students in the United States, with some 1,100 deaths by suicide occurring in this age group each year. Lack of social support (feeling unappreciated, unloved, and uninvolved with family and friends) emerged as one of the most powerful predictors of persistent suicidal thoughts, even in the absence of other risk factors.

Dennis, Phinney and Chuateco (2005) examined environmental social supports, such as perceptions of positive or support from family and peers, as predictors of college outcomes. The results indicated that the lack of both family and peer resources correlated more highly with the college outcomes than did the perception of family and peer support available. Findings indicate that the need for peer resources, as opposed to family resources, continued to remain significant, even when all other control, support, and motivation variables were included in the models. The impact of lack of peer support on academic outcomes suggests that programs that promote study groups, peer mentoring, or similar services help students find the support they need to deal with the pressures of college.

Based on their research findings, Dennis, et al. (2005) concluded that personal/career motivation and a lack of needed support from peers are important predictors of college GPA, adjustment, and, possibly, commitment to college. This remained true even when the strong effects of academic aptitude (indicated by high school GPA) were controlled. In addition, the lack of contextual resources (peer support) predicts poorer grades and adjustment later in the same year. Both personal characteristics and contextual features contribute to the adjustment of ethnic minority first-generation college students.

Lack of Mentors — Mentoring is critical for at-risk students, particularly those who (a) come from low-income families, (b) are first-generation college students, (c) are members of minority groups, particularly Latinos and African-Americans, and (d) are confronted with life circumstances that create barriers to their success. McGlynn researched the lives of children who had multiple barriers to overcome in order to achieve success. She found that children who were “resilient” (having beaten all the odds against them) had people in their lives that took them under their wings and nurtured them (2014).

This is supported by research by the National Mentoring Partnership (2014). Based on conversations on mentoring relationships with over 1100 students ages 18-21, it found that there is significant value in having a mentor. In terms of aspirations and outcomes, the report shows that at-risk young adults (18 to 21) who had a mentor were: (a) more likely to aspire to enroll in and graduate from college than were those who did not have a mentor (76% versus 56%) and (b) more likely to be enrolled in college than those who did not have a mentor (45% versus 29%).

Recognizing High-Risk Behaviors to Develop College Success Behaviors

Kuh, Kinzie, Buckley, Bridges & Hayek (2006) define student success as encompassing “academic achievement, engagement in educationally purposeful activities, persistence, acquisition of desired knowledge, skills and competencies, satisfaction, attainment of educational objectives, and post college performance (p. 1).”

Educators need to be able to recognize high-risk behaviors of college students in order to become effective facilitators of student learning and success. Table 3 identifies twenty critical risk behaviors that limit student success (such as procrastination, lack of self-discipline, lack of motivation, tendency to memorize, and being insecure in public speaking situations). One reason for identifying student high-risk factors is to provide educators with a resource for understanding the types of issues that students bring to the educational experience, which will give them an opportunity to design learning strategies to facilitate success.

One of the goals of the University of the District of Columbia’s Learning-to-Learn Camp was to understand urban youth and the risk factors that they face. During the camp, educators addressed this goal by distinguishing the at-risk behaviors of camp participants. These included lack of motivation for performing well, a low level of self-respect and self-esteem, limited key social skills, lack of goal clarity, limited communication skills, lack of strong role models, lack of preparation for current academic challenges, significant psychological problems, and lack of strong support group. Subsequently, educators created an assessment tool to assess risk factors. Further, based on the knowledge gained working with the students, they advanced their instructional practices that led to student success (2006).

Developed in 1994 to empower a group of at-risk students to become successful learners, the Learning-to-Learn Camp is a rigorous process-oriented program designed to strengthen cognitive, social, affective, and academic skills. This intense experience challenges and inspires students to grow and

develop skills essential for success in college and life, i.e. to become effective lifelong learners (Armstrong, Anderson, & Nancarrow, 2007; Beyerlein, Schlesinger, & Apple, 2007)). The camp reinforces student persistence, retention, and success by focusing faculty and staff professional development and curricula on methodologies that address the at-risk behaviors of students who are considered to be at risk of dropout or failure during their freshman year (Apple, Morgan, & Hintze, 2013). It is an educational process, as demonstrated by student testimonials from three institutions on the benefits of their participation in a Learning-to-Learn Camp. One student shared that *“In just one week, I have learned to think more in-depth and how to assess myself and find out what I need to do for the next day. I never thought I could do what I’m doing, challenging myself.* Another student said, *“I learned how to manage stress. It taught me a lot—time management was especially valuable.”* A third student remarked, *“I have become more confident in what I can accomplish in and out of school.* (Armstrong, et al., 2009, p. 339).” There are benefits for educators as well. The camp motivates faculty and staff to mentor student growth and improve the teaching/learning processes they use with students.

The twenty critical risk behaviors identified in Table 3 are organized under four categories of noncognitive factors that are essential to student success: perseverance, academic mindset, learning skills, and social skills (Farrington, Roderick, Allensworth, Nagaoka, Johnson & Beechum (2012). Observable behaviors for noncognitive risk factors are described in the chart to assist educators in recognizing the risk factors and planning how to address them in the learning process. For example, students who are highly judgmental are constantly self-critical, seeing only their mistakes and failures; they do not appreciate their own growth or improvement. Insecure public speakers avoid speaking up in class. Students who lack self-discipline are easily distracted by social situations and opportunities for immediate gratification and they put off critical work.

The Learning-to-Learn Camp reflects the philosophy of Process Education™, a performance-based philosophy that integrates many different educational theories, processes, and tools. The philosophy emphasizes the continuous development of learning skills through the use of assessment principles in order to produce learner

development. It also supports the current institutional reform movement that calls for a shift in emphasis from an agenda driven by teachers’ desires and designs to one focused on students’ needs. It consistently seeks answers to the question, “How do students learn most effectively and enduringly?” and then works to translate the answer into teaching practice and, ultimately, institutional policy (Beyerlein, Schlesinger, & Apple, 2007). The Learning-to-Learn Camp uses a metacognitive approach to build learning skills and self-knowledge. With internalization, students begin to apply the Process Education concepts, strategies, and resources to multiple areas of their lives (Armstrong, Anderson, & Nancarrow, 2007).

How do we empower students to become strong learners who are successful? We adopt a Process Education™ philosophy to move students through their risk behaviors, teaching them the tools to manage their multiple risk factors and to turn their behaviors into successes.

Concluding Thoughts

One of the greatest challenges for institutions of higher education is to develop strong lifelong learners who are able to compete on an international level. Increasing numbers of at-risk students are going to college with multiple risk factors, including being first-generation college students. If the federal goal of having the world’s highest rate of college completion by 2020 is to be achieved, colleges must utilize educational strategies that will assist students in achieving their performance goals. While there are a variety of programs to support students, a holistic approach is needed where a foundation is established that enables students to learn how to learn, to transfer knowledge, and to think critically, and which challenges them to grow in self-knowledge. Guiding students in learning key methodologies is vital if educators are to assist students in addressing their own problems and limitations in practical ways. This requires educators to think and act differently in achieving their educational mission, to identify high-risk factors, delineate models to address them, and document effective strategies that challenge students in their thinking, reflection, performance assessment, and self-growth. Learning involves continuously increasing one’s capacity to process, connect, and create knowledge that supports skillful performances in every area of life.

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