

CHAPTER 15

SELF-EFFICACY DURING CHILDHOOD AND ADOLESCENCE

Implications for Teachers and Parents

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I begin this chapter with an assumption I hope readers will find reasonable. The assumption is that the beliefs that young people hold about their capability to succeed in their endeavors are vital forces in the subsequent successes or failures they attain in these endeavors. These *self-efficacy beliefs* provide the foundation for motivation, well-being, and personal accomplishment in all areas of life. This is because unless young people believe that their actions can produce the results they desire, they have little incentive to act or to persevere in the face of the difficulties that inevitably ensue. They can, of course, be cajoled or coerced to complete tasks or participate in activities not of their choosing, but, as soon as they are provided with the option to select their own life paths, they will surely select tasks and activities they believe are within their capabilities and avoid those that they believe are beyond their perceived competence.

Researchers have made noteworthy contributions to the understanding of self-efficacy and its relation to motivation and achievement. But, although parents and teachers may well be impressed by the force of research findings regarding the self-efficacy beliefs of children and adolescents, they are apt to be more interested in useful implications, sensible strategies to help maintain their youngsters' adaptive self-efficacy, and insights on ways to best alter these beliefs when they are inaccurate and debilitating to the young people in their care. In this chapter, my aim is to identify some of the implications that emanate from the findings on self-efficacy obtained by researchers (and presented in this volume). First, however, let me clarify the defining characteristics of this important self-belief and briefly synthesize the major findings on the relation between the self-efficacy, motivation, and achievement of children and adolescents.

SELF-EFFICACY AND SOCIAL COGNITIVE THEORY

With the publication of *Social Foundations of Thought and Action: A Social Cognitive Theory* in 1986, Albert Bandura proposed a theory of human functioning that emphasizes the role of self-beliefs. In this social cognitive perspective, individuals are viewed as self-organizing, proactive, self-reflecting, and self-regulating rather than as reactive organisms shaped by environmental forces or driven by concealed inner impulses. Human thought and human action are viewed as the product of a dynamic interplay of personal, behavioral, and environmental influences. How people interpret the results of their own actions informs and alters their environments and the personal factors they possess, which, in turn, inform and alter future actions. This is the foundation of Bandura's conception of *reciprocal determinism*, the view that (a) personal factors in the form of cognition, affect, and biological events, (b) behavior, and (c) environmental influences create interactions that result in a triadic reciprocity.

The reciprocal nature of the causes of human functioning in social cognitive theory makes it possible to direct attention at personal, environmental, or behavioral factors. For example, well-being can be fostered by improving the emotional, cognitive, or motivational processes of young people that are keystones of their personal factors. Well-being can also be fostered by improving young people's skills or altering the social conditions under which they live. In school, teachers work to improve the competence and confidence of the students in their charge. They can accomplish this by working to improve their students' emotional states and to correct their faulty self-beliefs and habits of thinking (personal factors), improve students' academic skills and self-regulatory practices

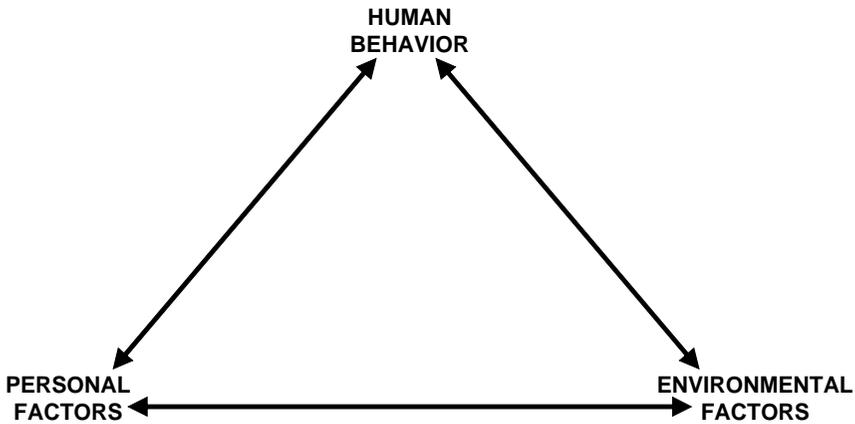


Figure 15.1. Model illustrating relations between determinants in triadic reciprocal causation.

(behavior), and alter the school and classroom structures that may work to undermine student success (environmental factors).

SELF-EFFICACY AND ACADEMIC ACHIEVEMENT

Empirical evidence supports Bandura's contention that self-efficacy beliefs touch virtually every aspect of people's lives—whether they think productively, self-debilitatingly, pessimistically or optimistically; how much effort they expend on an activity; how well they motivate themselves and persevere in the face of adversities; how they regulate their thinking and behavior; and their vulnerability to stress and depression. As a consequence, these beliefs can powerfully influence the level of accomplishment that people ultimately realize. Self-efficacy is also a critical determinant of the life choices people make and of the courses of action they pursue. Typically, they engage in activities in which they feel competent and avoid those in which they do not. This is particularly critical at the high school and college levels, where young people progressively have more academic choices available to them.

The knowledge and skills that individuals possess will certainly play critical roles in what they choose to do and not do. But it is important to emphasize that people must invariably *interpret* the results of their attainments just as they must make judgments about the quality of the knowledge and skills they possess. Imagine, for example, two students who receive a B on an important exam. In and of itself, a B has no inherent

meaning, and certainly no causal properties. How will receiving such a grade affect a particular youngster? A student accustomed to receiving As on exams in this particular class and subject and who worked hard throughout the term and studied for the exam will view the B in ways quite dissimilar from that of a student accustomed to receiving Cs and who worked equally hard. For the former, the B will be received with distress; for the latter, the B is likely to be received with elation. The student accustomed to receiving As is likely to have her academic confidence bruised; the C-acquainted student is sure to have her confidence boosted. Context is not always everything, but it colors everything.

Because people inherently interpret the results of their actions, their choices, behaviors, and competencies can typically be better predicted by the beliefs they hold about their accomplishments than by what they are actually capable of accomplishing. Of course, this does not mean that they can accomplish tasks beyond their capabilities simply by believing that they can. Competent functioning requires harmony between self-beliefs on the one hand and possessed skills and knowledge on the other. Rather, it means that self-efficacy beliefs help determine what people will do with the knowledge and skills they possess. This idea is consistent with the basic assumption with which I began this chapter, that young people's self-beliefs are critical forces in their motivation and achievement in all areas of life. Self-efficacy beliefs are also critical determinants of how well knowledge and skill are acquired in the first place.

Self-efficacy beliefs should not be confused with people's judgments of the consequences that their behavior will produce. Typically, self-efficacy beliefs help foster precisely the outcome one expects, which is the very heart of the *self-fulfilling prophecy*. Confident students anticipate successful outcomes. Students confident in their social skills anticipate successful social encounters. Those confident in their academic skills expect high marks on exams and expect the quality of their work to reap academic benefits. The opposite is true of those who lack confidence. Young people who doubt their social skills often envision rejection or ridicule even before they establish social contact. Those who lack confidence in their academic skills envision a low grade before they even begin an exam or enroll in a course.

When self-efficacy belief and perceived outcome differ, the belief can easily determine the behavior. A student may well realize that strong academic skills are essential for obtaining a good SAT score and being admitted to the college of her choice, and this, in turn, may ensure a comfortable future lifestyle. But if she lacks confidence in her academic capabilities, she may well shy away from challenging courses, will approach the SAT with apprehension and self-doubt, and may not even consider college attendance. In the social arena, a young man may realize

that pleasing social graces and physical attractiveness will be essential for wooing the young lass who has caught his eye, which, in turn, may lead to a romantic interlude and even a lasting relationship. If, however, he has low confidence in his social capabilities and doubts his physical appearance, he will likely shy away from making contact and hence miss a potentially promising opportunity. In each of these cases, it bears remembering that, as Henry Ford once observed, “Whether you think that you can or that you can’t, you are usually right.”

By the year 2005, more than 3,000 articles included the concept of self-efficacy. In a typical Internet search, the term generated over half a million Web pages. Self-efficacy has been the focus of research in areas as diverse as business, athletics, medicine and health, media studies, social and political change, moral development, psychology, psychiatry, psychopathology, and international affairs. It has been especially prominent in educational research, where scholars have reported that, regardless of previous achievement or ability, self-efficacious students work harder, persist longer, persevere in the face of adversity, have greater optimism and lower anxiety, and achieve more. Students who believe they are capable of performing academic tasks also use more cognitive and metacognitive strategies than those who do not. Academic self-efficacy influences cognitive strategy use and self-regulation through the use of metacognitive strategies, and self-efficacy is associated with in-class seatwork and homework, exams and quizzes, and essays and reports. In psychology, “intelligence” (in the form of IQ) has typically been acknowledged the most powerful cognitive predictor of achievement. But when researchers tested the joint contribution of self-efficacy and intelligence to the prediction of achievement, they found that students’ self-efficacy beliefs made a powerful and independent contribution to the prediction of their academic performance. Clearly, it is not simply a matter of how capable you are; it is also a matter of how capable you believe you are.

Self-efficacy explains approximately a quarter of the variance in the prediction of academic performances. Lest you think that a modest contribution, consider the many and varied factors that impinge on a student’s experience. Any psychological factor capable of explaining 25% of the variance in most academic outcomes merits attention and even a bit of awe. In this next section, I offer some implications that emanate from research findings on self-efficacy.

IMPLICATIONS FOR TEACHERS AND PARENTS

The first few implications emanate from theory and research regarding the genesis, or sources, of self-efficacy beliefs, that is, how they are created

and how they can be nurtured. Individuals form their self-efficacy perceptions by interpreting information from four sources: mastery experience, vicarious experience, social persuasions, and physiological reactions. For most people, the most influential source is the interpreted result of one's own performance, or *mastery experience*. Simply put, individuals gauge the effects of their actions, and their interpretations of these effects help create their efficacy beliefs. Success raises self-efficacy; failure lowers it. What could be simpler or more sensible? Students who perform well on mathematics tests and earn high grades in mathematics classes develop a strong sense of confidence in their mathematics capabilities. This strong sense of efficacy helps ensure that they will enroll in subsequent mathematics-related classes, approach mathematics tasks with serenity, and increase their efforts when a difficulty arises.

- **Emphasize Skill Development Rather Than Self-Enhancement**

The contention that one's mastery experiences are the most influential source of self-efficacy information speaks directly to the self-enhancement model of academic achievement that contends that, to increase student achievement in school, educational efforts should focus on enhancing students' self-conceptions. Traditional efforts to accomplish this have included programs that emphasize building self-esteem through praise or self-persuasion methods. Self-efficacy theorists shift the emphasis from self-enhancement to skill development—to raising competence through genuine success experiences with the performance at hand, through *authentic* mastery experiences. Educational interventions should be designed with this critical point in mind.

Students' self-efficacy beliefs develop primarily through actual success on challenging academic tasks. As Bandura has written, "let us not confuse ourselves by failing to recognize that there are two kinds of self-confidence, one a trait of personality and another that comes from knowledge of a subject. It is no particular credit to the educator to help build the first without building the second. The objective of education is not the production of self-confident fools." Decades earlier, Erik Erikson argued that "ego identity gains real strength only from wholehearted and consistent recognition of real accomplishment, that is, achievement that has meaning in their culture." It is always important to keep in mind Shel Silverstein's caution that "if the track is tough and the hill is rough, thinking you can just ain't enough."

Academic work should be hard enough that it energizes, not so hard that it paralyzes. Effective teachers know that tasks and assign-

ments must always be at an accomplishable level of difficulty. Young people themselves well know that successful completion of challenging tasks is self-rewarding and energizing, whereas completion of simple tasks brings little satisfaction. As Thomas Paine said, “What we obtain too cheap, we esteem too lightly.”

- **Ensure That Students’ Interpretations Are Adaptive**

Sociologist Alfred Schutz observed that, “It is the *meaning* of our experiences which constitutes reality.” Recall the brief vignette a few pages back about our A and C students. We saw with some clarity that young people invariably *interpret* their mastery experiences. This can lead to situations in which inappropriate interpretations can diminish the very self-efficacy beliefs required to push on in the face of adversity. In no situation is this more evident than in the manner in which individuals perceive “failure.”

Famed psychologist Robert Sternberg received a C in his first college introductory psychology class. His teacher commented that “there was a famous Sternberg in psychology and it was obvious there would not be another.” Three years later, Sternberg graduated with honors from Stanford University with exceptional distinction in psychology. In 2002, he became President of the American Psychological Association. Michael Jordan was cut from his high school basketball team. He once observed, “I’ve failed over and over again in my life. That is why I succeed.” Van Gogh sold only one painting during his life. Louisa May Alcott, author of *Little Women*, was encouraged to find work as a servant by her family. Emily Dickinson had only seven poems published in her lifetime. And 27 publishers rejected Dr. Seuss’s first book, *To Think That I Saw It on Mulberry Street*, Jack London received six hundred rejection slips before he sold his first story, William Saroyan accumulated more than a thousand rejections before he had his first literary piece published, and Gertrude Stein submitted poems to editors for nearly 20 years before one was finally accepted.

The Roman poet Virgil wrote that “they are able who think they are able.” One of the important characteristics of successful individuals is that failure and adversity do not undermine their self-efficacy beliefs. This is because self-efficacy is not so much about learning how to succeed as it is about learning *how to persevere when one does not succeed*. Self-efficacy cannot provide the skills required to succeed, but it can provide the effort and persistence required to obtain those skills and use them effectively.

When failure is normative, resilience is second nature. Adults

make a great mistake when they endeavor to prevent young people from failing. Failure, after all, is the price that must be paid for success. Efforts are better aimed at helping young people learn how to fail at those times when failure is unavoidable. To this end, effective teachers and parents treat student errors, missteps, and incorrect answers as positive contributions that lead to subsequent achievement. Often, all that is needed is an adaptive perspective on failure. After Thomas Edison had made 1,000 unsuccessful attempts at inventing the light bulb, a reporter asked, "How did it feel to fail 1,000 times?" Edison replied, "I didn't fail 1,000 times. The light bulb was an invention with 1,000 steps." Author Samuel Beckett put it well: "Ever tried. Ever failed. No matter. Try Again. Fail again. Fail better."

In addition to interpreting the results of their mastery experiences, young people form their efficacy beliefs through the *vicarious experience* of observing others perform tasks. Observing the successes and failures of peers perceived as similar in capability contributes to beliefs in one's own capabilities ("*If he can do it, so can I!*"). Although this source of information is usually weaker than is mastery experience, when young people are uncertain about their own abilities or have limited previous experience, they become especially sensitive to it. If there is one finding that is incontrovertible in education and psychology it is that people learn from the actions of models, and so this is a prominent area of research in the study of self-efficacy. Vicarious experience also involves the *social comparisons* that students make with each other. These comparisons, along with peer modeling, can be powerful influences on self-efficacy beliefs. In situations in which young people have little experience with which to form a judgment of their competence in a particular area, peer models are especially useful.

- **Engage in Effective Modeling Practices**

Different modeling practices can differently affect young people's self-beliefs. For example, adults who are *coping models*, that is, who good-naturedly admit their errors when they are pointed out ("Oops, I was a little careless. Thanks for pointing that out."), help youngsters understand that missteps are inevitable, that they can be overcome, and that even authority figures can make them. Conversely, adults who are strictly *mastery models*, that is, those who have their authority and ego tied up into their infallibility, respond to errors in a manner that shows they are incapable of making them ("I was just checking to see if you were paying attention."). Mastery

models imbue in young people the idea that making errors is unacceptable and just plain dumb.

- **Select Appropriate Peer Models**

A student's peers are also a student's models. Hence, it is important to select peers as classroom models judiciously so as to ensure that students view themselves as comparable in learning ability to the models. There are cautions that should be observed. A model's failure has a more negative effect on the observers' self-efficacy when the observers judge themselves as having comparable ability to the model. Clearly, when someone whom we perceive as similar to us in ability fails, we are likely to believe that we, too, might fail (*"If she can't do it, neither can I."*). If, on the other hand, observers judge their own capability as superior to the model's capability, failure of the model has a minimal effect (*"She can't do it, but I can."*). When peer models make errors, engage in coping behaviors in front of students, and verbalize emotive statements reflecting low confidence and achievement, low-achieving students perceive the models as more similar to themselves and experience greater achievement and self-efficacy. As is the case with teachers as models, students who model excellence can imbue other students with the belief that they too can achieve that excellence.

- **Minimize the Relative Ability Information Publicly Available**

There are many ways in which young people are not helped by comparing their efforts and accomplishments with those of their peers. Of course, most children and adolescents will inevitably compare their skills and abilities with those of their friends and peers regardless of what well-meaning adults try to do to minimize or counter these comparisons. Nonetheless, young people should be helped to develop their own internal standards for evaluating their own outcomes. The challenge is to ensure that these internal standards are rigorous without being debilitating, realistic without being self-limiting, fluid without being wishy-washy, consistent without being static.

- **Tailor Instruction to the Student's Capabilities**

Educators have long known that when they create classroom structures that are individualized and they tailor instruction to students' academic capabilities, social comparisons are mini-

mized and students are more likely to gauge their academic progress according to their own standards rather than compare it to the progress of their classmates. In cooperative and individualized learning settings, students can more easily select the peers with whom to compare themselves. Individualized structures that lower the competitive orientation of a classroom and school are more likely than are traditional, competitive structures to increase academic self-efficacy.

Self-concept researchers have illustrated the *Big-Fish-Little-Pond-Effect*, which describes how students form their self-beliefs by comparing their academic ability with the perceived abilities of other students in their reference group. Academic self-beliefs are increased when one views oneself as more capable than one's peers but, conversely, lowered when others are viewed as more capable. Social-comparative school practices that emphasize standardized assessments, involve ability grouping and lockstep instruction, use competitive grading practices, and encourage students to compare their achievement with that of their peers work to destroy the fragile self-beliefs of those who are less academically talented or prepared. These are instructional practices that can transform self-efficacy into self-doubt.

- **Exercise Care in Grouping Practices**

Group dynamics are powerful. If a teacher is not careful, it is easy to create groups in which one or two students monopolize the activities or in which some students feel at a social or academic disadvantage. Effective teachers manage groups with care, and they work hard to provide all students with opportunities for success in group activities. Similarly, wise parents ensure that all siblings experience success within the family. It's difficult to develop confidence or competence when one is not engaged or when others are doing most of the work.

Stephen Sondheim cautioned adults to be "Careful the things you say. Children will listen." Self-efficacy beliefs are influenced by the words (and the actions) of others, whether these be intentional or accidental. Consequently, the third source of self-efficacy information comes from the *verbal messages and social persuasions* that people receive. These messages can help one to exert the extra effort and persistence required to succeed, resulting in the continued development of skills and of personal efficacy. Or they can be powerfully disheartening.

- **Careful the Things You Say, Children Will Listen**

Famed educator Maria Montessori wisely counseled that, “Since children are so eager to learn and so burning with love, an adult should carefully weigh all the words he speaks before them.” Young people do listen, often when we least expect them to. The verbal and nonverbal judgments of others can play a critical role in the development of a young person’s self-confidence, and these judgments often become the self-talk that youngsters repeat in their own heads further down the road.

Successful persuaders cultivate young people’s beliefs in their capabilities while ensuring that the envisioned success is attainable. Positive persuasions encourage and empower; negative persuasions defeat and weaken self-beliefs. When girls receive social messages that they can achieve and succeed in male-dominated fields such as mathematics, science, and technology, these messages are instrumental in their future success in these areas. Ironically, it is the young person who has the greatest self-doubt to begin with who is more affected by negative comments and discouragements. Being counseled at an early age that one is not “college material” can have destructive effects if one is not endowed with a resilience to withstand and counteract such judgments.

- **Praise What Is Praiseworthy**

Effective persuasions should not be confused with knee-jerk praise or empty inspirational homilies. Praise and encouragement should be delivered honestly and in their proper measure when they are deserved. It is of course important that young people feel positively about themselves and about their capabilities, and teachers and parents play a critical role in nurturing the positive self-beliefs of children and adolescents. But heed carefully Erik Erikson’s caution that young people “cannot be fooled by empty praise and condescending encouragement. Their identity gains real strength only from wholehearted and consistent recognition of *real* accomplishment ... a strong ego does not need, and in fact is immune to, any attempt at artificial inflation.”

Praising a young person for a job well done is an important way of showing encouragement and support. Providing praise when it is undeserved, however, is dishonest, manipulative, and potentially dangerous. When capable people accomplish competent work with minimal effort, knee-jerk praise sends the quite peculiar message that putting forth minimal effort is praiseworthy. Self-efficacy is

unaffected when praise is perceived as undeserved, and adults who provide such praise soon lose credibility. Moreover, in such situations the youngster is clearly under-challenged, and teachers and parents are better served by raising standards and expectations and challenging the young person to meet these expectations.

- **Praise Effort and Persistence, Not Ability**

Foster the belief that competence or *ability* is a changeable, controllable aspect of development, and encourage effort, perseverance, and persistence as ways to overcome obstacles. Praising with statements such as “You are so smart!” or “How bright you are!” can often have the opposite effect intended. Praising for “smarts” tells young people that success is a matter of intellectual ability (which one either has or doesn’t have). How can young people develop confidence in an ability they believe is beyond their control? Praising for effort tells people that the harder you work the more you accomplish and the smarter you get. Whether at home or at school, rather than praising for ability, make it a habit to praise the *genuine* effort and persistence the young person puts forth.

- **Make a Moment Memorable**

Providing private feedback in a personal encounter can be a powerful way of engendering attention and making a moment memorable. Most of us recall an adult’s words provided during a private moment that left a lasting and powerful impression. Positive public feedback aimed at an individual too often will please that individual but displease others who do not receive it. With students, public praise often has the opposite effect that the teacher intends—the student receiving the praise is likely to be teased or ridiculed when the teacher is not present. Private moments take more time, but they pack a stronger punch. Parents, too, can provide these private moments in the home or during an outing. Teachers and parents who proactively make time for such private encounters foster communication and help build memories that are not easily forgotten.

- **Be Alert to the Unintended Messages You Send**

The philosopher Michel Foucault once observed that, “People know what they do; they frequently know why they do what they do; but what they don’t know is what they do does.” Well-intended

messages can have unintended consequences. When a young person encounters difficulty in an academic area or task in which a parent also encountered difficulty as a student, a loving parent will often attempt to soothe the child's frustration with well-meaning statements such as, "Don't feel bad. This runs in the family. I couldn't spell to save my life." Keep in mind that the message the youngster hears is that it is perfectly fine, even admirable, to be incompetent in spelling because the parent was. Too often, they may come to take pride in that incompetence and cease their efforts to improve. Parents must understand that if they were terrible spellers and their child is having difficulty with spelling, they must not commiserate. Instead, parents should challenge their child to improve her own spelling so that she can teach them a thing or two about spelling.

Physiological and emotional states such as anxiety and stress, along with one's mood, provide information about efficacy beliefs. Typically, optimism and a positive mood enhance self-efficacy, whereas depression, despair, or a sense of despondency diminishes it. As with the other sources, it is not the intensity of the physical indicator or mood state itself that is important, but the individual's interpretation of it. People with strong self-efficacy will view the emotional state as energizing, whereas those beset by self-doubt may regard it as debilitating.

- **Help Young People Learn to "Read" Their Feelings**

We can all get a fairly good sense of our own confidence by the emotional feelings we experience as we contemplate an action. Negative feelings provide cues that something is amiss, even when we are unaware that such is the case. People who approach an activity with dread and apprehension likely lack confidence in their skills in that activity. Moreover, those negative feelings can themselves trigger additional stress and agitation that help ensure the inadequate performance feared. Worse yet, anxiety and dread can be paralyzing. Help young people read their own emotional feelings. Teach them that, if they find themselves experiencing undue anxiety when faced with a task, this is an appropriate time to discuss their feelings with a teacher, parent, or counselor. Help them understand that these feelings should not be ignored. It goes without saying that one should not confuse the typical butterflies that may accompany specific performances and activities with the anxiety that has its roots in more complex causes.

- **Identify Self-Handicapping Strategies**

When young people fear failure, they can engage in all sorts of self-handicapping strategies to avoid feeling the anxiety that accompanies this fear. One of the most common self-handicapping strategies is to put forth little or no effort on the task in which the young person has little confidence of success. It is less anxiety-producing to fail believing you didn't try than to fail knowing you tried your best. When one puts forth little or no effort and fails, it hurts less when one explains the failure by claiming that "I didn't do well because I didn't try. I could do well if I wanted to. I just don't want to." That sort of self-deception inevitably leads to lower and lower competence, missed opportunities, and a vicious cycle of continued failure. Other self-handicapping strategies include self-deprecating talk, deliberate procrastination, setting goals so high and unattainable that failure can be self-viewed as "failing with honor," and setting goals so easy that one cannot fail.

- **Foster Optimism and a Positive Outlook on Life**

Winston Churchill once said that "a pessimist sees the difficulty in every opportunity, but an optimist sees the opportunity in every difficulty." Energizing as that is, optimism has even greater powers. Researchers have found that optimism is related to adaptive academic benefits, including academic achievement, positive goal orientation, and use of learning strategies, whereas pessimism is associated with negative outcomes and with learned helplessness. Moreover, optimism is correlated with self-efficacy, self-esteem, and even with using self-regulatory strategies. Optimism is also associated with tranquility, lower stress, and numerous health indexes. As Bandura once observed, people live in psychological environments that are primarily of their own making. Not only should parents and teachers foster optimism in their children and students, they should faithfully model it themselves.

The implications above emanate from findings regarding the sources of self-efficacy beliefs. The following result from findings on the relationship between self-efficacy, motivation, and achievement.

- **Foster Competence and Confidence**

Albert Bandura has cautioned that "educational practices should be gauged not only by the skills and knowledge they impart for present

use *but also by what they do to children's beliefs about their capabilities*, which affects how they approach the future. Students who develop a strong sense of self-efficacy are well equipped to educate themselves when they have to rely on their own initiative." Competence *and confidence* should be fostered in tandem as students progress through school, or indeed through life. Recall that the results of our previous actions are always filtered by the beliefs that those actions create. For this reason, nurturing adaptive and beneficial self-beliefs is a clear imperative of psychological and educational practice.

Some self-efficacy researchers have suggested that teachers and parents should pay as much attention to young people's self-efficacy beliefs as to actual competence, for research findings have demonstrated that the beliefs are better predictors of motivation and future academic choices and career decisions than are factors such as preparation, knowledge, competence, or interest. College undergraduates select majors and careers in areas in which they feel most confident and avoid those in which they lack confidence to compete. And it is unrealistically low self-efficacy, not lack of knowledge or skill, that can be responsible for maladaptive academic behaviors, disciplinary problems, and diminishing school interest and achievement. Given the generally lower confidence of girls related to boys in some areas of mathematics, science, and technology (despite possessing equal capability as boys), the beliefs of adolescent girls may be especially vulnerable in these areas.

- **Challenge Underconfidence**

Many talented individuals suffer frequent (and sometimes debilitating) bouts of self-doubt about capabilities they clearly possess. There are few things sadder to a teacher or parent than being faced with capable young people who, as a result of previous demoralizing experiences or self-imposed mind-sets, have come to believe that they cannot succeed at a task or activity when all objective indicators show that they can. Often, much time and patience are required to break the mental habits of perceived incompetence that have come to imprison young minds.

In school, many students have difficulty not because they are incapable of performing successfully but because they are incapable of believing that they can perform successfully—they have learned to see themselves as incapable of handling academic work or to see the work as irrelevant to their world. As a consequence, students' difficulties in basic academic skills are often directly related to their beliefs that they cannot read, write, handle numbers, or think

well—that they cannot learn—even when such things are not objectively true. In addition to continued skill improvement, adults must work to identify the inaccurate judgments of youngsters and implement strategies to challenge these judgments. Alexandre Dumas made the wise observation that when people doubt themselves, they make their own failure certain by themselves being the first to be convinced of it.

By adolescence, many self-beliefs have taken hold in powerful ways, for good or for ill. Like bad habits of action, inaccurate self-beliefs become bad habits of mind that can be frustratingly difficult to break. With time and use, self-beliefs become robust, and people hold on to beliefs based on incorrect or incomplete knowledge even after correct explanations are presented to them. Closely-held beliefs can persevere against reason, experience, time, and learning. John Dewey observed that “it is not uncommon to see persons continue to accept beliefs whose logical consequences they refuse to acknowledge.” Young people who consider themselves failures at a particular thing will reject or distort evidence that contradicts their belief. As educator William Stafford commented, “If I know I am stupid, ugly, awkward, and I receive a grade of A, win a beauty contest, or perform an acrobatic feat, I will chalk it off as a fluke, error, or dumb luck.” Psychologist Arthur Jersild suggested that young people are active “in the maintenance of the self picture, even if by misfortune the picture is a false and unhealthy one.” Because bad habits of mind can resist change, adults must work to prevent them from forming in the first place and to challenge them when they do.

- **Ask Young People About Their Self-Efficacy**

Self-efficacy beliefs are not always self-evident. Capable individuals often hold deep insecurities that they will not readily admit. In school, assessing students’ self-beliefs can provide teachers, counselors, and administrators with important insights about their pupils’ academic motivation, behavior, and future choices. As I have pointed out, in many cases, young people avoid particular academic routes, career opportunities, and life paths because they lack confidence in their capability rather than because they lack competence or capability. Inaccurate self-beliefs, rather than poor knowledge or inadequate skills, are often responsible for people shortchanging themselves personally, socially, and academically. When low self-efficacy is identified early, youngsters can be helped to develop a better understanding of their potential to succeed in a

desired path. Often, under-confidence is due to an inaccurate understanding of what skills a task or activity demands. In such cases, young people can be helped to better understand what abilities and skills a course of action will actually require. Identifying, challenging, and altering low self-efficacy is essential to success and adaptive functioning.

- **Help Young People Maintain Adaptive Self-Efficacy**

Philosopher and theologian Teilhard de Chardin wrote that “it is our duty as human beings to proceed as though the limits of our capabilities do not exist.” de Chardin’s exhortation notwithstanding, adults often work to lower the self-efficacy of young people in the well-meaning hope of making them more “realistic” about what they can and cannot do. These adults fear that it is not wise for a young person to hold “unrealistic” and lofty aspirations that are unlikely to be met. Reality and potential, the caring adult argues, should be well matched. But who can ever assess a person’s *full* potential with complete accuracy? People surprise us all the time, just as we surprise ourselves. And who has the key to understanding the precise nature of reality?

Bandura emphasized that successful functioning is best served by reasonable efficacy appraisals, but the most functional self-efficacy judgments are those that slightly exceed what an individual can actually accomplish, for this overestimation serves to increase effort and persistence. Manipulating the “accuracy” of self-efficacy beliefs so that they are better matched with some perceived potential is an enterprise fraught with danger. American students are often viewed as too academically overconfident for their own good. Perhaps. But remember that the stronger the self-efficacy, the more likely are persons to select challenging tasks, persist at them, and perform them successfully. Efforts to lower young people’s efficacy beliefs should generally be discouraged. Strategies to improve the match between belief and reality should emphasize helping children and adolescents to better understand what they know and do not know so that they may more effectively deploy appropriate cognitive strategies as they perform a task and engage in activities. Keep carefully in mind that the issue of “accuracy” cannot easily be divorced from issues of well-being, optimism, resilience, and optimal functioning.

Research supports the notion that, as people evaluate their lives, they are more likely to regret the challenge not confronted, the contest not entered, the risk un-risked, and the road not taken as a

result of under-confidence and self-doubt rather than the action taken as a result of overconfidence and optimism (and, yes, even the occasional foolhardiness). The challenge to parents and educators on this account is to make young people more familiar with their own internal mental structures without lowering confidence, optimism, drive, and passion. The shakers and movers of this world believed they could shake and move the world even when those around them ridiculed their beliefs. If our reach cannot exceed our grasp, what is a heaven for?

- **Foster Authenticity**

Help young people avoid the *illusion of incompetence* and the *illusion of artificial limits*. The *impostor syndrome*, as it is often called, is the belief that one is not truly competent to perform the tasks that others erroneously believe he can perform. This phenomenon has been found to be associated with stress, anxiety, and depression. It also fosters a sense of learned helplessness and helps debilitate students. This is hardly a surprise. After all, hiding your perceived incompetence is a heavy burden. The fear of discovery and ridicule is ever present. There is some evidence to suggest that high-achieving girls can be especially prone to these illusions in certain situations.

- **Make Self-Regulatory Practices Automatic and Habitual**

Home and school are the primary settings in which self-regulatory practices are developed and maintained, and the use of these strategies is intimately connected both with social and academic success and with the positive self-beliefs that accompany success. The importance of self-regulatory practices is that they can be used *across* tasks, activities, and situations. This means that effective self-regulatory practices can result in stronger self-efficacy and achievement in various areas. Consequently, they are at the very heart of improving self-efficacy beliefs and achievement. Barry Zimmerman and his colleagues have outlined a number of these practices in school. They include

- Finishing homework assignments by deadlines.
- Studying when there are other interesting things to do.
- Being able to concentrate on school subjects.
- Taking useful class notes of class instruction.
- Being able to use the library for information for class assignments.

- Effectively planning schoolwork.
- Effectively organizing schoolwork.
- Being able to remember information presented in class and in textbooks.
- Arranging a place to study at home without distractions.
- Being able to motivate oneself to do schoolwork.
- Participating in class discussions.

For William James, the critical challenge that parents and educators face is making children's self-regulatory practices automatic and habitual as early as possible. There is evidence to support James's contention that the self-regulatory processes that individuals use to make most of their decisions soon become automatic and are exercised primarily unconsciously. Many psychologists contend that individuals perform the bulk of their actions on autopilot, as it were. What this means is that people are, in later life, slaves to the self-regulatory practices and inclinations that they mastered during their youth. These habitual ways of behaving exert a powerful influence on the choices that people make and on the success or failure they experience. As a consequence, *habitual* self-regulatory behaviors are the very stuff of which the Self is made. According to James, when sound self-regulatory practices are handed over to "the effortless custody of automatism," higher powers of mind can be freed to engage other tasks.

- **Set Proximal Rather Than Distal Goals**

Working toward long-term goals is a necessary ingredient of life, but it can be tough on a young person's motivation. Proximal (short-term) goals are more easily digestible than are distal (long-term) goals. Proximal goals have the added benefit of raising self-efficacy. Not only do they make a task appear more manageable, but the more frequent feedback can convey a sense of mastery. Dale Schunk and his colleagues have demonstrated that self-efficacy and skill development are stronger in students who set proximal goals than in students who set distal goals, in part because proximal attainments provide students with evidence of growing expertise. In addition, students who are verbally encouraged to set their own goals experience increases in confidence, competence, and commitment to attain those goals. Self-efficacy is also increased when students are provided with frequent and immediate feedback while working on academic tasks, and, when students are taught to attribute this feedback to their own effort, they work harder, experi-

ence stronger motivation, and report greater self-efficacy for further learning.

- **Provide Instrumental Rather Than Executive Help**

When young people require help, adults should of course endeavor to provide it. But there are powerful differences between *instrumental help* and *executive help*. Instrumental help consists of providing just enough information to enable young people to succeed on their own. Executive help consists of providing the solution to a problem. It goes without saying that executive help is not particularly helpful if the aim is to foster problem-solving, authentic mastery, and self-reliance. Clearly, executive help is “over-help,” and over-help diminishes motivation. Moreover, self-efficacy is unlikely to be affected by success brought about by having had the solution provided. Sometimes, well-meaning parents and teachers will offer excessive help to youngsters they perceive to be academically weak or learning disabled. Two consequences inevitably ensue from this intrusive practice: The young person will read the adult’s intention, and whatever success is obtained will undermine intrinsic motivation. To paraphrase the wonderful Chinese proverb, give young people executive help and you feed them today; give them instrumental help and you feed them for a lifetime.

In school, teachers must also teach students how to provide help to their classmates. Students often seek help from each other to a greater degree than they seek help from the teacher. Like many of us, students often interpret a plea for help as a request for a solution to the problem in question. Part of creating an effective classroom climate involves teaching students how to provide instrumental rather than executive help. Teach students that executive help breeds dependence. A teacher can teach students to provide instrumental help in large part by modeling such help-giving, but explicit explanations, instructions, and monitoring help ensure that bad habits don’t resurface.

- **Create Opportunities for Self-Efficacy Beliefs to Generalize**

Self-efficacy beliefs can generalize across activities or situations. That is, beliefs acquired as a result of one set of experiences can influence new experiences. When people are confronted with a novel task that requires performing skills similar to those that were required to accomplish a familiar task, the beliefs about the familiar task will generalize to the novel task. In sports, a young athlete who

believes herself competent at basketball will receive her introduction to volleyball with the attitude that this is a game she can master. In school, a student who has grown confident in his capability to write stories will welcome his introduction to poetry with the attitude that this, too, is something he can do. In these cases, strong self-efficacy maximizes the chances of success in related activities.

As success beliefs generalize, so can failure beliefs. Young people who have developed self-defeating beliefs in their capability to accomplish tasks will approach similar tasks with apprehension and pessimism ("*If I'm good at basketball, I'll surely suck at volleyball.*"). When one ability is valued and highly rated, a failure of that ability can lower one's self-efficacy in other abilities. Repeated failure in a valued skill may have profound effects in seemingly unrelated skills. This *spread-of-effect phenomenon* has been well documented. The dangers of the self-fulfilling prophecy are evident.

Beliefs can also generalize when skills required to accomplish dissimilar activities are acquired together under the supervision of a competent instructor. Great coaches can create all-around athletes whose beliefs about their capabilities cut across various sports. The skills required to organize any course of action are governed by broader self-regulatory skills such as knowing how to diagnose task demands or constructing and evaluating alternative strategies. When young people possess these self-regulatory skills, they can improve their performances across a range of activities, in part because they believe in their ability to solve the problems required to succeed.

Self-efficacy beliefs also generalize when the effects of these beliefs are cognitively structured across activities. For instance, if a young person can be helped to realize that increased effort and perseverance will result in academic progress and greater understanding in mathematics, connections will be made to achieving success in other academic areas. Generalizable coping skills work in similar fashion by reducing stress and promoting effective functioning across a range of activities.

There are also "transforming experiences" that come about as the result of powerful performance attainments and can serve to strengthen beliefs in diverse areas of one's life, areas often greatly unrelated. Wandering into a school's theater club, trying out for a play, and finding that she loves and excels at acting can alter a young person's life in profound ways. The confidence of youngsters so transformed often reaches into many and diverse areas of their lives. When opportunities are created for them to generalize their

self-efficacy beliefs, the net these self-beliefs cast can be both wide and strong.

- **Emphasize a Mastery Goal Orientation**

Young people engage tasks and activities for a variety of reasons. Goal theorists have identified three such reasons, which they call *achievement goal orientations*. Researchers describe these goal orientations in terms of either *mastery* or *ego*. Mastery goals (sometimes called task or learning goals) represent a person's concern with mastering material and concepts, challenge-seeking, and viewing learning as an end in itself. Ego goals (also called performance goals) represent a concern with doing better than others, appearing smart, or avoiding appearing incompetent.

Research findings show that holding a mastery goal orientation has motivational and learning benefits whereas having an ego goal orientation can be detrimental and maladaptive. In school, students who engage their academic work with a mastery goal orientation tend to exhibit greater self-efficacy, use deeper processing strategies, show increased task engagement, attribute their success to effort rather than to ability or external causes such as luck, and persist longer in the face of difficulty. Ego goals are related to maladaptive behaviors such as lack of persistence, use of shallow cognitive strategies, avoiding help seeking, and attributions of failure to lack of ability.

It is not surprising that holding an ego orientation is also associated with pessimism and with the impostor syndrome. People whose achievement efforts are grounded on the fear of appearing incompetent, being embarrassed, or looking stupid are prone to view the fruits of their labors through the lens which that fear provides. There can be little psychological distance between the fear that others will think us incompetent and the suspicion that we may indeed be so, the suspicion that our accomplishments are ill-deserved. And how could fear and suspicion not be chaperoned by pessimism?

When teachers create a classroom climate in which mastery goal orientations are encouraged and ego orientations are discouraged, students approach their academic work with greater enjoyment and serenity. Of great importance, when encountering failure (and who doesn't encounter failure?), mastery oriented students prove resilient and resourceful, whereas ego oriented students experience greater stress, anxiety, depression, and shame. When parents foster a mastery goal orientation in their children's activities, children

engage in those activities with joy and enthusiasm and without fear of the missteps and errors that inevitably arise.

- **Encourage a Proactive Sense of Personal Agency**

No one should ever feel like a pawn on a chess board. Personal agency is the ability to act intentionally and exercise a measure of control over one's environment and social structures. Personal agency is about will, drive, and self-determination. Bandura rightfully contended that self-efficacy beliefs constitute the key factor of human agency. A century earlier, William James had observed that "our self-feeling is in our power." A great many of the things in our life happen to us because of the choices that we make. Young people must be helped to understand earlier than later that they are the engine that drives the train of their life.

- **Self-Efficacy Is Contagious—Nurture and Model Your Own Self-Efficacy**

The philosopher Joseph Joubert once observed that young people have more need of models than of critics. Children and adolescents look to adults for guidance on what to believe. Researchers have reported that the confidence that teachers have in their capability to affect their students' learning affects their instructional activities and their orientation toward the educational process. Teachers with a low sense of efficacy tend to hold a custodial orientation that takes a pessimistic view of students' motivation, emphasizes rigid control of classroom behavior, and relies on extrinsic inducements and negative sanctions to get students to study. Teachers with strong self-efficacy create mastery experiences for their students, whereas teachers with low instructional self-efficacy undermine students' cognitive development as well as students' judgments of their own capabilities. Teacher self-efficacy also fosters student achievement and students' achievement beliefs across various areas and levels. Self-efficacy is contagious, which is to say that students can easily "catch" a teacher's own sense of confidence. Self-confident teachers help create self-confident students and, regretfully, unconfident teachers help create unconfident students.

Similarly, parents' self-efficacy in their own parenting capabilities influences the development of their children. Gian Vittorio Caprara and his associates have studied the influence of parental self-efficacy beliefs on the well-being and adjustment of their children. Parents with strong parental self-efficacy monitor, support,

protect, guide, encourage, and make time for their children, dispense needed discipline with emotional closeness, and maintain open communication with them so that disagreements do not escalate into open conflict. Parents confident in their parenting skills contribute to the development of young people by cultivating their potential. They foster the aspirations and capabilities of their children, thereby improving their social relations, emotional well-being, academic development, and career choices.

- **Maximize the Collective Efficacy of the Classroom or Home**

Self-efficacy is both a personal and a collective belief. Collective systems such as homes, neighborhoods, communities, classrooms, teams of teachers, schools, and school districts develop a sense of collective efficacy—a group’s shared belief in its capability to attain its goals and accomplish desired tasks. Children, parents, teachers, and school administrators operate collectively as well as individually. Schools develop collective beliefs about the capability of their students to learn, of their teachers to teach and otherwise enhance the lives of their students, and of their administrators and policymakers to create environments conducive to those tasks. Schools with a strong sense of collective efficacy exercise empowering and vitalizing influences on their constituents, and these effects are palpable and in evidence — visitors speak of the schools’ “atmosphere” or “climate” and describe them as “can-do” or effective schools.

Families too have a climate and “feel” generated from the collective action of their individual members. As is the case with schools, fostering the collective efficacy of a family pays dividends both for parents and for children. Beyond the sense of togetherness that binds the individual members, the collective beliefs can foster all the qualities essential to adjustment and well-being.

Bandura found that collective efficacy mediated the influence of socioeconomic status, prior academic achievement, and teachers’ longevity on the academic achievement of students in various middle schools. The collective efficacy of a school is also related to the personal teaching efficacy of its teachers, as well as to their satisfaction with the school administration. The classroom’s and school’s sense of collective efficacy can undermine or enhance students’ and teachers’ own sense of efficacy. Caprara and his associates discovered parallel benefits of collective family efficacy.

- **Foster and Model Self-Reflection**

Socrates was wise to observe that the unexamined life is not worth living. Noted educator John Dewey expounded on the human capability, and need, for self-reflection. Bandura similarly noted that, “if there is any characteristic that is distinctively human, it is the capability for reflective self-consciousness.” Playwright, poet, and moral leader Václav Havel once wrote that the salvation of the world itself lies in the human power to reflect. Even little Calvin, of *Calvin and Hobbes* fame, took some time from mischief making to reflect that “sometimes one should just look at things and think about things without doing things.”

Without the capability to self-reflect, human beings would be reactive souls without the capacity for self-improvement. Purposeful and proactive self-reflection has powerful adaptive qualities. Naturally, it is the key to self-regulation. How can young people self-correct if they do not reflect on the corrections required? Such reflection should be proactive rather than reactive, and it should also be shared, which is to say that it should take the form not only of purposive and reflective self-thought but also self-reflective dialogue between the child, parents, and teachers.

- **Confidence is a Habit of Mind—Cultivate it Early**

William James wrote that “education is for behavior, and habits are the stuff of which behavior consists.” Self-efficacy beliefs ultimately become habits of thinking that are developed like any habit of conduct, and teachers and parents are influential in helping young people to develop the self-belief habits that will serve them throughout their lives.

There is a proverb to the effect that “instruction in youth is like engraving in stone.” Researchers know that the earlier a belief is incorporated into our belief system, the more difficult it is to alter it. Newly acquired beliefs are the most vulnerable to change. Once solidly established, our beliefs tend to self-perpetuate, persevering even against contradictions caused by reason, schooling, or experience. People tend to hold on to beliefs based on incorrect or incomplete knowledge even after correct explanations are presented to them. For these reasons, adults face the critical challenge of making the positive self-beliefs of youngsters automatic and habitual as early as possible. After all, good habits are as hard to break as are bad habits.

- **View Young People as Capable and Let Them Know It**

As young people strive to exercise control over their surroundings, their transactions are mediated by adults who can empower them with self-assurance or diminish their self-beliefs. As do we all, children and adolescents rely on the judgments of others to create their own self-efficacy beliefs. In 1902, Charles Horton Cooley introduced the metaphor of the *looking-glass self* to illustrate the idea that our sense of Self is primarily formed as a result of our perceptions of how others perceive us. That is, the appraisals of *others act as mirror reflections* that provide the information we use to define our own Self.

The mirrored appraisals of others can be so powerful that it is not at all unusual for children to become the very sort of people they believe others believe them to be. I recall one discussion with a doctoral student who was struggling with a portion of her dissertation that was giving her no end of trouble and undermining her confidence. At a particularly difficult juncture she said to me, “You know, Professor, I’ve come to the realization that, although it is important for me to believe that I can do this, it seems equally important for me to believe that you believe I can do this.”

Over a century ago, William James ended his lectures to the nation’s teachers with the gentle admonition that if they could but see their pupils as individuals composed of good intentions, and love them as well, they would be “in the best possible position for becoming perfect teachers.” As this is our aim, we do well to take heed.

CONCLUSION

To many readers, and certainly to all effective teachers and parents, many of the implications I have offered will sound like little more than educational principles grounded in simple common sense. Indeed. But two observations merit making. First, good psychology should always be allied to common sense. Second, as Voltaire wrote, common sense is not so common. Regrettably, it is too seldom common practice. There is often a fine line between what individuals perceive as common sense and what they have been doing for years, taking for granted that their actions are grounded in their own sense of common sense. Often, these actions reflect the simple repetition of habitual behaviors long established, seldom evaluated, and long unquestioned. Bertrand Russell once observed that in all affairs, “it’s a healthy idea, now and then, to hang a question

mark on things you have long taken for granted.” The implications I have offered emanate from research findings in which question marks have been hung on critical educational assumptions long taken for granted. As such, they represent the best answers that researchers have obtained when these assumptions have been subjected to scholarly scrutiny.

But let me add a word about the danger of *formalizing* generalizations. Lee Cronbach cautioned that “when we give proper weight to local conditions, any generalization is a working hypothesis, not a conclusion.” All implications should be viewed through that cautionary lens. None should be taken as a formal principle that becomes a rule or precept to be followed independent of context. When implications are disjoined from their contextual safeguards, the danger is that they can become one-size-fits-all recipes for instruction. John Dewey worried that the use of these recipes is antagonistic to education, for when research findings are reduced “to a rule which is to be uniformly adopted, then, only, is there a result which is objectionable and destructive of the free play of education as an art.” In offering implications that emanate from research findings, I seek only to provide a “starting point” from which teachers and parents may begin to seek the solutions to the challenges they face. All generalizations, however, must be tested against the reality of a particular setting and the particular individuals within that setting.

A third caution is warranted. Many critics have quite rightly railed against the tyranny that can result from an unbridled self-oriented emphasis in psychology and in education. It can be a short voyage from self-reflection to self-obsession, self-absorption, self-centeredness, self-importance, and selfishness. Young people who believe that the nurturance, maintenance, and gratification of their sense of Self is the prime directive of their own personal and social development do not easily learn to nurture others, to maintain lasting and mutually satisfying relationships, or to defer or postpone their own perceived needs. Artificial self-esteem is naked against adversity; unwarranted confidence is cocky conceit. When what is communicated to young people from an early age is that nothing matters quite as much as how they feel or how confident they should be, one can rest assured that the world will sooner or later teach them a lesson in humility that may not be easily learned. An obsession with one’s sense of self is responsible for an alarming increase in depression and other mental difficulties.

As is evident from the proliferation of self-esteem kits, programs, and gimmicks, complex issues related to the Self are often oversimplified and caricatured. In most cases, efforts are better aimed at transforming schools, classrooms, families, and teaching and parenting practices than at altering young people’s psyches. But institutional, curricular, familial, and pedagogical transformation and a focus on the self-beliefs of young

people need not be incompatible with concern for their personal, social, and psychological well-being. Warranted self-confidence need not result in arrogant self-satisfaction. Personal, social, emotional, and academic difficulties, as well as the misdirected motivation and lack of commitment often characteristic of the underachiever, the dropout, the student labeled “at risk,” the troublemaker, the delinquent, and the socially disabled, are in good measure the consequence of, or certainly exacerbated by, the beliefs that young people develop about their capabilities and about their ability to exercise a measure of control over their environments.

All parents and teachers have the responsibility of preparing self-assured and fully-functioning individuals capable of pursuing their hopes and their ambitions. Philosopher Nel Noddings observed that their ultimate aim should be “to produce competent, caring, loving, and lovable people.” Parents and teachers can aid their children and students in these pursuits by helping them to develop the habit of excellence in scholarship and in action while at the same time nurturing the self-beliefs necessary to maintain that excellence throughout their adult lives. One need only cast a casual glance at the world’s landscape to see that attending to the self-beliefs of young people is both a noble and necessary enterprise.

SUGGESTED READING

- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37, 122-147.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, 28, 117-148.
- Bandura, A. (Ed.) (1995). *Self-efficacy in changing societies*. New York: Cambridge University Press.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Caprara, G. V., Scabini, E., & Sgritta, G. B. (2003). The long transition to adulthood: An Italian view. In F. Pajares & T. Urdan (Eds.), *International perspectives on adolescence* (pp. 71-99). Greenwich, CT: Information Age.
- Hackett, G. (1995). Self-efficacy in career choice and development. In A. Bandura (Ed.), *Self-efficacy in changing societies* (pp. 232-258). New York: Cambridge University Press.
- Multon, K. D., Brown, S. D., & Lent, R. W. (1991). Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation. *Journal of Counseling Psychology*, 38, 30-38.
- Pajares, F. (1996). Self-efficacy beliefs in academic settings. *Review of Educational Research*, 66, 543-578.

- Pajares, F. (1997). Current directions in self-efficacy research. In M. Maehr & P. R. Pintrich (Eds.), *Advances in motivation and achievement* (Vol. 10, pp. 1-49). Greenwich, CT: JAI Press.
- Pajares, F., & Schunk, D. H. (2001). Self-beliefs and school success: Self-efficacy, self-concept, and school achievement. In R. Riding & S. Rayner (Eds.), *Self-perception* (pp. 239-266). London: Ablex.
- Pajares, F., & Schunk, D. H. (2005). The self and academic motivation: Theory and research after the cognitive revolution. In J. M. Royer (Ed.), *The impact of the cognitive revolution on educational psychology* (pp. 165-198). Greenwich, CT: Information Age.
- Pajares, F., & Urdan, T. (Eds.). (2005). *Self-efficacy and adolescence*. Greenwich, CT: Information Age.
- Schunk, D. H. (1995). Self-efficacy and education and instruction. In J. E. Maddux (Ed.), *Self-efficacy, adaptation, and adjustment: Theory, research, and applications* (pp. 281-303). New York: Plenum.
- Schunk, D. H., & Pajares, F. (2002). The development of academic self-efficacy. In A. Wigfield & J. Eccles (Eds.), *Development of achievement motivation* (pp. 16-31). San Diego: Academic Press.
- Schunk, D. H., & Pajares, F. (2004). Self-Efficacy in education revisited: Empirical and applied evidence. In D. McInerney & S. Van Etten (Eds.), *Research on sociocultural influences on motivation and learning. Vol. 4: Big theories revisited* (pp. 115-138). Greenwich, CT: Information Age.
- Zimmerman, B. J. (1999). Self-efficacy: An essential motive to learn. *Contemporary Educational Psychology*, 25, 82-91.
- Zimmerman, B. J., & Schunk, D. H. (2003). Albert Bandura: The scholar and his contributions to educational psychology. In B. J. Zimmerman & D. H. Schunk (Eds.), *Educational psychology: A century of contributions* (pp. 431-458). Mahwah, NJ: Erlbaum.

