

SELF-EFFICACY BELIEFS, MOTIVATION, AND ACHIEVEMENT IN WRITING: A REVIEW OF THE LITERATURE

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The purpose of this article is to examine the contribution made by the self-efficacy component of A. Bandura's (1986) social cognitive theory to the study of writing in academic settings. A brief overview of Bandura's social cognitive theory and of self-efficacy is first provided, followed by a description of the manner in which writing self-efficacy beliefs are typically operationalized and assessed. This is followed by a synthesis of research findings that address the relationship between writing self-efficacy, other motivation constructs related to writing, and writing outcomes in academic settings. These findings demonstrate that students' confidence in their writing capabilities influence their writing motivation as well as various writing outcomes in school. Academic implications and strategies that may help guide future research are offered.

When learning theorists first proposed views of social learning that rejected behaviorist notions of associationism in favor of drive reduction principles, they did not take into account the creation of novel responses or the processes of delayed and nonreinforced imitations. Bandura and Walters (1963) broadened the frontiers of social learning theory with the now-familiar principles of observational learning and vicarious reinforcement. Rejecting the behaviorists' indifference to self-processes, Bandura (1986) later proposed a view of human functioning that emphasized the role of self-referent beliefs. In this sociocognitive perspective, individuals are viewed as proactive and self-regulating rather than as reactive and controlled by biological or environmental forces. Also in this view, individuals are understood to possess self-beliefs that enable them to exercise a measure of control over their thoughts, feelings, and actions. In all, Bandura painted a portrait of human behavior and motivation in which the beliefs that people have about their capabilities are critical elements. In

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fact, according to Bandura, how people behave can often be better predicted by the beliefs they hold about their capabilities, what he called *self-efficacy* beliefs, than by what they are actually capable of accomplishing, for these self-perceptions help determine what individuals do with the knowledge and skills they have. Recently, Bandura (1997) further situated self-efficacy within a theory of personal and collective agency that operates in concert with other sociocognitive factors in regulating human well-being and attainment.

Current interest and research on the influence of self-beliefs in school contexts is so prevalent that after a thorough analysis of the state of knowledge related to theories and principles of academic motivation for the *Handbook of Educational Psychology*, Graham and Weiner (1996) observed that this line of inquiry is on the verge of dominating the field of motivation. This focus on students' self-beliefs as a principal component of academic motivation is grounded on the assumption that the beliefs that students create, develop, and hold to be true about themselves are vital forces in their success or failure in school.

Judgments of personal efficacy affect what students do by influencing the choices they make, the effort they expend, the persistence and perseverance they exert when obstacles arise, and the thought patterns and emotional reactions they experience. A strong sense of confidence, for example, may serve students well when writing an essay because it engenders greater interest in and attention to writing, stronger effort, and greater perseverance and resiliency in the face of adversity. Confident students are also likely to feel less apprehensive and have stronger feelings of self-worth about their writing. For these reasons, Bandura (1986) described self-efficacy as a *mediating* mechanism of personal agency—mediating between the prior influences that are the sources of its creation and subsequent behavior.

People form their self-efficacy perceptions by interpreting information from four sources. The most influential source is the interpreted result of one's performance, or mastery experience. Outcomes interpreted as successful raise self-efficacy; those interpreted as failures lower it. The second source of self-efficacy information is the vicarious experience individuals undergo when they observe others performing tasks. Part of one's vicarious experience involves the social comparisons made with other individuals. These comparisons, along with peer modeling, can be powerful influences on developing self-perceptions of competence. Individuals also develop self-efficacy beliefs as a result of the verbal messages and social persuasions they receive from others. Positive persuasions may work to encourage and empower; negative persuasions can work to defeat and weaken self-beliefs. Physiological states such as anxiety and stress also provide information about efficacy beliefs.

During the two decades since Bandura first introduced the construct, the predictive and mediational role of self-efficacy has received extensive support from a growing body of findings from diverse fields (see Bandura [1997] and Stajkovic & Luthans [1998] for meta-analysis of research on the relationship between self-efficacy beliefs and achievement outcomes). The depth of this support prompted Graham and Weiner (1996) to conclude that self-efficacy has proven to be a more consistent predictor of behavioral outcomes than have other self-beliefs. Self-efficacy has also received increasing attention in educational research, primarily in studies of academic motivation (Pintrich & Schunk, 1995). Researchers have focused on three areas. In the first, researchers have reported that efficacy beliefs influence the career choices of individuals, particularly in science and mathematics (Hackett, 1995). Findings from the second area reveal that the efficacy beliefs of teachers are related to their instructional practices and the academic progress of their students (Tschannen-Moran, Woolfolk-Hoy, & Hoy, 1998). In the third area, researchers have reported that students' self-efficacy beliefs are correlated with other motivation constructs and with students' academic performances and achievement (Pajares, 1996, 1997).

Self-beliefs about writing have received modest attention both from researchers in the field of composition and from self-efficacy researchers, who had concentrated their efforts in the area of mathematics. This is unfortunate, given the critical role that composition plays at all levels throughout the academic curriculum. Nonetheless, some recent efforts have shed light on the influence of self-efficacy beliefs on various academic writing outcomes. The purpose of this article is to review those efforts. To set the foundation for this review, a description of the manner in which writing self-efficacy beliefs are typically operationalized and assessed is first provided. This is followed by a synthesis of research findings that address the relationship between writing self-efficacy and writing outcomes in academic settings. These findings demonstrate that students' confidence in their writing capabilities influence their writing motivation as well as various writing outcomes in school.

BELIEFS ABOUT WRITING

Historically, researchers in the field of composition have focused on the processes in which writers engage as they compose a text (Faigley, 1990; Hairston, 1990). Cognitive aspects have received particular attention as investigators have attempted to understand the thought processes underlying the compositions of students (e.g., Flower & Hayes, 1981; Scardamalia, Bereiter, & Goelman, 1982). Hull and Rose (1989) noted that the

more that researchers learned about the relationship between cognition and writing, the more complex the relationship seemed to be. During the past decade, researchers have attempted to address this complexity by investigating the affective factors that influence writing (e.g., Beach, 1989; Faigley, Cherry, Jolliffe, & Skinner, 1985). Some have suggested that students' self-perceptions of their own writing competence offer a particularly promising avenue of research for informing writing instruction (Beach, 1989). As a consequence, a number of researchers have explored the relationship between students' self-efficacy beliefs about writing, other motivation variables related to writing, and various writing outcomes. Before discussing their findings, it is instructive to review how self-efficacy beliefs are defined and assessed in the area of writing.

Assessing Writing Self-efficacy

Bandura (1995, 1997) has provided clear guidelines regarding how self-efficacy beliefs should be operationalized and measured. Because efficacy beliefs vary in level, strength, and generality, these dimensions are important in determining how instruments should be constructed. Imagine that a researcher is interested in assessing the essay-writing self-efficacy of middle-school students and wishes to compare that with the students' capability to write an essay. In any given domain, there are different levels of task demands that researchers may tap. For writing an essay, these can range from a lower level (e.g., writing a simple sentence with proper punctuation) to the higher level (e.g., organizing sentences into a paragraph so as to clearly express an idea). Students are asked to rate the strength of their belief in their capability to perform each of the levels identified. Thus, the efficacy scale provides multiple items of varying difficulty that collectively assess the domain of essay-writing at a particular academic juncture. In addition, items should be prototypic of essay-writing rather than minutely specific features of writing (e.g., confidence to form letters), and they should be worded in terms of *can*, a judgment of capability, rather than of *will*, a statement of intention. Finally, efficacy instruments should always be administered before the outcomes with which they will be compared and in as close temporal proximity as possible.

Because students' beliefs about their writing will differ in generality across the domain of writing, researchers must carefully match the efficacy assessment with a writing outcome that corresponds with that assessment. Students may not judge themselves efficacious across all types of language arts activities or even across all types of writing. Self-efficacy beliefs will differ in predictive power depending on the task they are asked to predict. Beliefs will best predict the performances that most closely correspond

with such beliefs. Regarding essay-writing self-efficacy, the outcome should be an essay (rather than a poem or creative short-story or the yearly grade in language arts), and criteria for scoring the essay should be based on the content of the items presented in the efficacy instrument and on which the students made their judgments.

Three ways of measuring writing self-efficacy have proven popular. The first involves assessing students' confidence that they possess specific writing *skills*. In some cases, items assess students' confidence in their ability to successfully perform grammar, usage, composition, and mechanical writing skills such as correctly punctuating a one page passage or organizing sentences into a paragraph so as to clearly express a theme (see McCarthy, Meier, & Rinderer, 1985; Meier, McCarthy, & Schneck, 1984; Pajares & Johnson, 1994, 1996; Shell, Colvin, & Bruning, 1995; Shell, Murphy, & Bruning, 1989). In other cases, items assess students' confidence in their ability to display specific skills related to writing a story, skills such as telling about the main character's feelings or clearly telling about the setting (Graham & Harris, 1989a). In some instruments, skills assessed are those identified by language arts teachers as appropriate to their students' writing level (Pajares, Miller, & Johnson, 1999; Pajares & Valiante, 1997, 1999). A second way of measuring writing self-efficacy involves assessing the confidence that students have to complete writing *tasks*, such as writing a term paper, authoring a short fiction story, or writing a letter to a friend (Pajares & Johnson, 1994; Shell et al., 1989, 1995). Reliability scores for each of these scales have ranged from .85 for elementary school samples to .95 for college samples.

Recall that research questions should be formulated with an eye to enhancing the correspondence between self-efficacy and performance assessments. Consequently, the relationship between self-efficacy and academic outcomes will be strongest when self-efficacy items are closely matched to the outcome under investigation. Pajares and Johnson (1994) used writing skills self-efficacy and writing tasks self-efficacy to predict the writing performance of undergraduate students and found that writing skills self-efficacy predicted students' skill in composing essays but writing tasks self-efficacy did not. Of course, composite scores from reliable, multi-scale self-efficacy instruments can provide teachers and counselors with information regarding students' general writing confidence, and results may be useful in studies of complex writing-related outcomes that do not easily lend themselves to analyses that ensure correspondence between belief and outcome.

In writing self-efficacy scales, students provide their judgments either along a Likert-scale continuum or by filling in any number from 0 to 100 as a measure of their self-efficacy for each skill or task. Pajares, Hartley, and Valiante (2001) found that a writing skills self-efficacy scale with a 0–100

response format was psychometrically stronger than one with a traditional Likert format. In analyses predicting middle school students' grade point average in language arts and teacher ratings of their students' writing competence, the 0–100 scale predicted both outcomes whereas the Likert scale assessment did not. Moreover, 37% of the variance in grade point average and 28% of the variance in teacher ratings was associated uniquely with the 0–100 scale; the variance associated uniquely with the Likert scale was negligible for each dependent variable. This is consistent with Bandura's (1997) caution that "including too few steps loses differentiating information because people who use the same response category would differ if intermediate steps were included" (p. 44). Since neither a Likert-type scale nor a 0–100 scale is more difficult or longer than the other, using a format that adds predictive utility is especially warranted.

As I have emphasized, self-efficacy scales should correspond to the outcome being measured. In some studies, the outcome of interest has been students' grades in language arts rather than scores on a particular essay. Consequently, a third method of measuring students' writing self-efficacy beliefs is to use items asking students to provide a rating of their confidence that they can earn either an A, B, C, or D in their language arts class. These confidence judgments are then compared with actual grades obtained (Pajares, 1999; Pajares, Britner, & Valiante, 2000). Reliability indexes have ranged from .86 to .89 with samples of middle school students.

In the final analysis, evaluating the appropriateness and adequacy of a self-efficacy measure requires making a theoretically informed and empirically sound judgment that reflects an understanding of the domain under investigation, its different features, the types of capabilities it requires, and the range of situations in which these capabilities might be applied. These understandings can then be used to evaluate an efficacy measure by the level of specificity of its items, the range of task demands that it includes, and the correspondence between the beliefs that are tapped and the outcome that is measured.

Relationship Between Writing Self-efficacy and Writing Outcomes

Research findings have consistently shown that writing self-efficacy beliefs and writing performances are related. Most of the early self-efficacy studies were conducted on college undergraduates (e.g., McCarthy et al., 1985; Meier et al., 1984; Shell et al., 1989). Writing performance typically consisted of essay scores provided by the English professors or researchers trained in holistic scoring. Effect sizes for writing self-efficacy in multiple regression models ranged from .32 to .42. Researchers also reported that

writing self-efficacy beliefs were correlated with variables such as writing anxiety, grade goals, depth of processing, and expected outcomes. Another consistent finding was that neither writing apprehension nor other motivation variables were typically predictive of writing performance in regression models that included self-efficacy.

Recent findings support these results (e.g., Pajares et al., 1999; Pajares & Johnson, 1996; Pajares & Valiante, 1999; Rankin, Bruning, & Timme, 1994; Schunk & Swartz, 1993; Shell et al., 1995; Wachholz & Etheridge, 1996; Zimmerman & Bandura, 1994; see also Bruning & Horn, 2000). Regression analyses have been accompanied by path analyses that provide information about direct and indirect effects of belief on performance. In general, results reveal that writing self-efficacy makes an independent contribution to the prediction of writing outcomes and plays the mediational role that social cognitive theorists hypothesize. This is the case even when powerful covariates such as writing aptitude or previous writing performance are included in statistical models. Effect sizes between writing self-efficacy and writing outcomes in multiple regression and path analyses that control for preperformance assessments such as writing aptitude or previous achievement have ranged from .19 to .40. Typically, self-efficacy and preperformance assessments are the only variables that influence writing outcomes in models that include other motivation variables, gender, and grade level. Writing self-efficacy is also associated with motivation variables such as writing apprehension, perceived value of writing, self-efficacy for self-regulation, writing self-concept, and goals, and it mediates the effect of gender and preperformance on writing performance (see, for example, Graham & Harris, 1989; Pajares & Valiante, 1997; Pajares et al., 1999; Zimmerman & Bandura, 1994).

When researchers gauge the influence of affective factors on achievement outcomes and statistically control for previous achievement with measures such as writing aptitude, teacher ratings of students' writing competence, or previous writing performance, this control is problematic in that previous achievement scores are themselves influenced by affective factors. Bandura (1997) observed that "behavior is not a cause of behavior" (p. 69), and motivational and self-regulatory factors influence both prior and later performance attainments. Consequently, controlling for previous achievement controls not only for that variable but also for the prior impact of motivational determinants such as self-efficacy on previous achievement. Thus, the influence of affective factors on writing outcomes is potentially greater than the effects indicate. These confounding influences are not easily disentangled; thus, they should be kept in mind as results are interpreted (see Bandura, 1997, pp. 68–70 for a full discussion of this issue).

Writing Self-efficacy and Other Motivation Constructs

Other motivation constructs that predict academic achievement indexes have been prominent in self-efficacy studies. Writing apprehension was first used by Daly and Miller (1975) to describe a form of writing anxiety that correlated with SAT verbal scores, perceived likelihood of success in writing, and a willingness to take writing courses. Recently, researchers have reported that although writing apprehension typically correlates with writing performances, when self-efficacy beliefs are controlled, the influence of apprehension is nullified (Pajares et al., 1999; Pajares & Valiante, 1997, 1999, 2001). These findings are consistent with Bandura's (1986) contention that anxiety is mediated by self-efficacy beliefs; that is, feelings of anxiety are largely a result of the confidence with which students approach a task. Similar findings have been reported by researchers exploring the role of anxiety in mathematics. If self-efficacy beliefs are a cause of variables such as writing apprehension, interventions designed to improve writing by decreasing anxiety may be useful to the degree that they increase students' confidence in their writing ability.

Students' perceived value of writing has also been included in writing studies, and results indicate that as with writing apprehension, the influence of perceived value on writing outcomes is nullified when self-efficacy beliefs are included in the statistical models (Pajares et al., 1999; Pajares & Valiante, 1997, 1999; Shell et al., 1989). According to expectancy value theory, judgments of confidence and valued outcomes codetermine the tasks in which individuals will engage and the success they will experience (Wigfield & Eccles, 1992). According to Bandura (1986), self-efficacy judgments in part determine the value that people place on tasks and activities. Students who expect success in a school subject tend to value that subject. Because the outcomes students expect largely depend on their judgments of what they can accomplish, beliefs such as perceived value are unlikely to make an independent contribution to predictions of academic performances when efficacy perceptions are controlled.

Students' self-efficacy for self-regulation—the confidence to use self-regulated learning strategies—correlates with writing competence (Harris & Graham, 1992; Schunk & Zimmerman, 1994; Zimmerman, Bandura, & Martinez-Pons, 1992; Zimmerman & Martinez-Pons, 1990; Zimmerman & Risemberg, 1997). In part, this is because students develop beliefs about their academic capabilities as a result of how successful they perceive to be their self-regulatory strategies (Bandura & Schunk, 1981). Consequently, students' perceived self-regulatory skills predict the confidence with which they face academic tasks. Confidence in self-regulatory strategies has also been linked to greater strategy use, higher intrinsic motivation, more adaptive attributions, and academic achievement (Pintrich & De Groot,

1990; and see Schunk & Zimmerman, 1994; Zimmerman & Kitsantas, 1999; Zimmerman & Schunk, 1989).

Students' writing confidence and competence increase when they are provided with process goals (i.e., specific strategies they can use to improve their writing) and regular feedback regarding how well they are using such strategies (Graham & MacArthur, 1988; Graham, MacArthur, Schwartz, & Page-Voth, 1992; Schunk & Swartz, 1993). When process goals are linked with feedback, writing competence improves even more and strategy use increases (Schunk & Swartz, 1993). Researchers have demonstrated that instruction in self-regulatory strategies increases both writing skills and self-efficacy. For, example, when learning disabled students are taught self-instructional strategies for writing stories and essays, their writing skills, revision skills, and writing self-efficacy increase. These strategies include setting goals, self-recording progress, using mnemonic strategies, learning revision strategies, using self-instructions for strategy induction, and self-evaluating progress (Butler, Elashuk, & Poole, 2000; Graham & Harris, 1989a; 1989b; Graham & MacArthur, 1988; Graham et al., 1992; see also Gersten & Baker, 2001).

Academic self-concept beliefs are widely acknowledged to influence academic outcomes across domains (Skaalvik, 1997). Self-concept beliefs differ from self-efficacy beliefs in that self-concept includes judgments of self-worth. In studies of academic motivation, self-concept is typically measured at a domain-level of specificity, whereas self-efficacy is more typically assessed at a skills- or task-specific level. A writing self-concept item such as, "Writing makes me feel inadequate," differs in tone and substance from a self-efficacy item that may ask, "How sure are you that you can correctly spell all words in a one page story or composition?" Moreover, self-efficacy and self-concept need not be related. Some students may feel confident about their writing but may not feel the corresponding positive feelings of self-worth in part because they take no pride in their writing accomplishments (for a discussion of this issue, see Pajares, 1996, 1997). Writing self-concept—the judgments of self-worth associated with one's self-perception as a writer—is not prominent in the motivation literature, but verbal self-concept has been a focus of study. Researchers have reported significant relationships between verbal self-concept and academic outcomes such as reading (Skaalvik, 1997). They have also reported modest but significant gender differences in verbal self-concepts favoring girls (Marsh, 1989), and these differences may exist even at very early ages (Crain, 1996). Studies in which domain-specific writing self-concept and skills-specific writing self-efficacy are included as predictors of writing performance reveal that writing self-efficacy beliefs are significant predictors, whereas writing self-concept beliefs are not (Pajares et al., 1999).

Achievement goals, the reasons that students have for doing their academic work, have received extensive study in the area of academic motivation (Urduan, 1997). Researchers describe these goals in terms of either task, performance-approach, or performance-avoid orientations. Task goals represent students' concern with mastering material, challenge-seeking, and learning as an end in itself; performance-approach goals represent students' concern with wanting to do well so as to display their ability; performance-avoid goals represent students' concern with wanting to do well so as to avoid showing a lack of ability. Researchers have reported that holding task goals in writing is positively related to writing self-efficacy, whereas holding performance-approach goals is negatively related (Pajares & Valiante, 2001; Pajares et al., 1999). Performance-approach goals seem to be positively related to writing confidence for boys but are unrelated with confidence for girls.

Researchers who have included several of these constructs in studies of writing support the contentions of social cognitive theory regarding the predictive and mediational role of self-efficacy beliefs on writing performance. Shell et al. (1989) reported a significant correlation between students' confidence in their writing skills and their holistic score on an essay but found no significant correlations between the perceived value of writing and essay scores. In a number of studies, writing self-efficacy, perceived value of writing, writing apprehension, self-efficacy for self-regulation, and previous writing performances correlated with the writing achievement of students from elementary school to college, but multiple regression and path analyses revealed that only self-efficacy and preperformance assessments were significant predictors (Pajares & Johnson, 1996; Pajares & Valiante, 1997, 1999, 2001; Pajares et al., 1999).

Gender Differences in Writing Self-efficacy

The relationship between gender and academic confidence has been a focus of research in the area of writing, and researchers have typically found that girls report stronger confidence in their writing capabilities than do boys, at least through middle school (Eccles et al., 1989; Pajares & Valiante, 1997, 2001; Pajares, Miller, & Johnson, 1999; Wigfield, Eccles, MacIver, Reuman, & Midgley, 1991). These differences may begin at very early ages (see Crain, 1996; Eccles, Wigfield, Harold, & Blumenfeld, 1993), and it is possible that they may diminish, or even reverse, as students get older. Pajares and Johnson (1996) reported that at grade 9, boys held stronger writing self-efficacy than did girls. Researchers have observed that girls experience a drop in their academic motivation and perceptions of competence as they reach high school (Bruning & Horn, 2000; Phillips & Zimmerman, 1990), perhaps because they begin to encounter classroom

structures that emphasize a masculine form of discourse (Cleary, 1996). In any case, it seems likely that gender differences in writing self-efficacy are a function of previous success with writing. Differences favoring girls are typically rendered nonsignificant when previous achievement is controlled (Pajares & Valiante, 1999; Pajares et al., 1999).

It seems incongruous that girls typically score better in writing performance indexes and are rated better writers by their teachers but do not display the corresponding stronger confidence than boys in their writing capabilities. Recall that in academic contexts, gender differences in self-efficacy consist of differences reported by boys and girls in the strength of their confidence that they possess various academic skills or can accomplish academic tasks. Differences in the average level of confidence reported are interpreted as gender differences in self-efficacy. Some researchers have suggested that boys tend to be more self-congratulatory in their responses to these sorts of instruments, whereas girls tend to be more modest (Wigfield, Eccles, & Pintrich, 1996). Noddings (1996) suggested that boys and girls may use a different "metric" when providing confidence judgments, adding that these sorts of ratings may represent more of a promise to girls than they do to boys. If this is the case, actual differences in confidence may be masked or accentuated by such a response bias (Wigfield et al., 1997; and see Flynn, 1983, for a feminist perspective on gender issues in writing).

Bandura (1986) emphasized that comparisons with peers are important determinants of self-efficacy beliefs. To explore the influence of those comparisons, researchers asked students to provide writing self-efficacy judgments in the traditional manner (confidence in possessing specific writing skills) but also to make comparative judgments regarding their writing ability versus that of other boys and girls in their class and in their school. These ability comparisons are similar to what some researchers have referred to as external frame of reference effects (Marsh, Walker, & Debus, 1991). The aim was to discover whether gender differences in writing self-efficacy were congruent with gender differences in ability comparisons. Consistent with previous findings, results revealed that girls outperformed boys in writing but that girls and boys reported equal writing self-efficacy. When students were asked whether they were better writers than their peers, however, girls expressed that they were better writers than were other boys in their class or in their school to a greater degree than did the boys. This phenomenon has been reported both at the elementary and middle school levels (Pajares et al., 1999; Pajares & Valiante, 1999). It is evident that, regardless of the ratings that boys and girls provide on writing self-efficacy measures, girls consider themselves better writers than the boys. If researchers are to continue to explore gender differences in self-beliefs, they will need to address that

issue with questions that will provide these sorts of insights (see Schwarz, 1999).

Numerous researchers, including self-efficacy researchers, have argued that some gender differences in social, personality, and academic variables may actually be a function of gender orientation—the stereotypic beliefs about gender that students hold—rather than of gender (Eisenberg, Martin, & Fabes, 1996; Hackett, 1985; Harter, Waters, & Whitesell, 1997; Matsui, 1994). For example, gender differences in variables such as moral voice or empathy tend to disappear when gender stereotypical beliefs are accounted for (Harter et al., 1997; Karniol, Gabay, Ochion, & Harari, 1998). Eccles's (1987) model of educational and occupational choice posits that cultural milieu factors such as students' gender role stereotypes are partly responsible for differences in course and career selection, confidence beliefs, and perceived value of tasks and activities. Most research related to this hypothesis has been conducted in the area of mathematics and science, where researchers report that girls enroll in fewer mathematics and science classes in part because they sex-type mathematics as a male domain.

To determine the degree to which gender differences in writing motivation and achievement are a function of gender stereotypic beliefs rather than of gender, Pajares and Valiante (in press) asked middle school students to report how strongly they identified with characteristics stereotypically associated with males or females in American society. Results revealed that gender differences in writing self-efficacy were rendered nonsignificant when gender orientation beliefs were controlled. Instead, holding a feminine orientation was associated with writing self-efficacy beliefs. These findings support the contentions of researchers who suggest that gender differences in academic motivation may in part be accounted for by differences in the beliefs that students hold about their gender rather than by their gender per se.

Social cognitive theory does not endow gender self-beliefs with agentic and motivating properties (Bussey & Bandura, 1999), but neither does it endow gender itself with such properties. Researchers have long observed that fields in the areas of mathematics, science, and technology are typically viewed by students as being within a male-domain (Fennema & Sherman, 1978; see also Eisenberg et al., 1996). In these areas, a masculine orientation is associated with confidence and achievement because masculine self-perceptions are themselves imbued with the notion that success in these areas is a masculine imperative (Eccles, 1987; Hackett, 1985). Language arts in school is typically associated with a feminine orientation in part because writing is viewed by most students, particularly younger students, as being a female-domain. As a consequence, a feminine orientation is associated with motivational beliefs related to success

in writing. One challenge before language arts educators is to alter students' views of writing so that it is perceived as relevant and valuable both to girls and boys. A challenge for all educators, and for the broader culture, is to continue to expound and model gender self-beliefs that encompass both the feminine expressiveness and the masculine instrumentality that are critical to a balanced self-view.

Writing Self-efficacy and Race/Ethnicity

Graham's (1994) summary of the literature on the expectancy beliefs of African American students revealed that these students maintain positive self-regard in the face of achievement failure. Similar findings have been reported with Hispanic American students (Lay & Wakstein, 1985; Stevenson, Hanson, & Uttal, 1990). These findings have resulted primarily from studies of generalized, domain-specific self-concept of ability. When perceptions of competence are assessed as item-specific self-efficacy judgments, results can differ. Pajares and Johnson (1996) found that the writing self-efficacy of Hispanic high school students was substantially lower than that of non-Hispanic White students. Hispanic students were also more apprehensive about their writing. In each case, despite differences in self-efficacy, minority students reported positive math self-concepts. It may be that beliefs at differing levels of specificity perform different functions for minority students (Edelin & Paris, 1995). Graham acknowledged that self-efficacy is an important factor in the study of motivation but noted that it has been too sparsely examined in either race homogeneous or race heterogeneous studies. Self-efficacy beliefs assessed at differing levels of specificity may help explain the relationship between perceptions of competence and academic achievement, how these perceptions are related to other motivation factors, and whether the origins of these beliefs differ for minority children and across socioeconomic levels.

Because self-efficacy judgments influence the choices students make, the effort they expend, the perseverance with which they approach new tasks, and the anxiety they experience, the lower self-efficacy beliefs of minority students provide one explanation for why many of them become and remain "at risk"—why their academic achievement diminishes as they pursue their education and why a sizeable number eventually drop out of high school (O'Hare, 1992). Efforts to remediate writing skills will prove difficult if educators do not take into account the lack of confidence many students develop as a result of previous experiences or of present academic difficulties. Once entrenched, negative perceptions of one's ability are exceedingly resistant to change, and even subsequent academic success, however brought about, often fails to alter these beliefs (Bandura, 1986;

see Nisbett & Ross, 1980, on the *perseverance phenomenon*, the view that, once acquired, beliefs tend to persist even in the face of conflicting information).

It seems obvious that teachers should endeavor to prevent students from developing negative perceptions in the first place. Given the academic failure that some students experience, this is a challenging task. Nonetheless, it is evident that students should be able to face difficulties, or even fail, without losing the confidence required to try again and to improve. Scheier and Carver (1993) argued that when students have little confidence in their capabilities, a sense of pessimism and “negative thinking” pervades their academic endeavors. Students with positive expectations that result from a strong sense of confidence approach tasks with optimism and continue to strive in the face of difficulty; those with low confidence and few expectations for success are more likely to withdraw their effort and give up on their goals.

Developmental Influence on Writing Self-efficacy

Some researchers have shed light on the development of writing self-efficacy beliefs, particularly from elementary school to grade 10. In one study, students' confidence in their capability to accomplish writing tasks increased as they progressed from grade 4 to grade 10 (Shell et al., 1995). This finding is intuitive, given that older students are more capable than their younger peers to accomplish the writing tasks on which their efficacy is based. There were no differences, however, between students in grades 4, 7, and 10 in their confidence that they possessed various grammar, usage, and composition skills. Because, again, older students are in better possession of those skills, one wonders why their confidence in their skills did not increase proportionately. Other researchers have reported that students in the first year of middle school report stronger confidence in their writing skills than do students in grades 7 and 8 (Pajares & Valiante, 1999), again in the face of older students having greater writing competence. This pattern of decreasing confidence in language arts skills is consistent with findings from expectancy-value researchers who have reported that students' self-concepts of ability in English decrease from start of grade 6 to end of grade 7 (Wigfield, Eccles, MacIver, Reuman, & Midgley, 1991). The obvious conclusion is that it does not seem as though confidence in writing skills is nurtured as students progress through school, even in the face of the skills themselves being developed (see Cleary, 1996; Phillips & Zimmerman, 1990). This is particularly ironic because the vast majority of students begin school *believing* that they can write (Calkins, 1983).

CLOSING THOUGHTS

Two decades of research on the influence of self-efficacy beliefs in academic functioning have strengthened Bandura's (1986) claim that self-efficacy beliefs play an influential role in human agency. Consequently, an important pedagogical implication to emerge from these findings is that teachers would do well to take seriously their share of responsibility in nurturing the self-beliefs of their pupils, for it is clear that these self-beliefs can have beneficial or destructive influences. Teachers and schools are responsible for helping students develop their competence *and* confidence as students progress through school. Bandura (1986) argued 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. (p. 417)

As children strive to exercise control over their surroundings, their first transactions are mediated by adults who can either empower them with self-assurance or diminish their fledgling self-beliefs. Young children are not proficient at making accurate self-appraisals, and so they must rely on the judgments of others to create their own judgments of confidence and of self-worth. Teachers who provide children with challenging tasks and meaningful activities that can be mastered, who chaperone these efforts with support and encouragement, and who believe in their students and convey this belief help ensure that their students will develop a robust sense of confidence (see Mills & Clyde, 1991). Beliefs of personal competence ultimately become habits of thinking that are developed like any habit of conduct, and teachers are influential in helping students to develop the self-belief habits that will serve them throughout their lives.

Some self-efficacy researchers have suggested that teachers should pay as much attention to students' perceptions of competence as to actual competence, for it is the perceptions that may more accurately predict students' motivation and future academic choices (Hackett & Betz, 1989). Assessing their students' self-efficacy beliefs can provide teachers with important insights. For example, researchers have demonstrated that self-efficacy beliefs strongly influence the choice of majors and career decisions of college students (Hackett, 1995). In many cases, unwarranted low confidence, rather than lack of capability, is responsible for maladaptive academic behaviors, avoidance of courses and careers, and diminishing school interest and achievement. Teachers and parents will readily attest to the fact that there are situations in which inaccurate self-beliefs, rather

than a weak knowledge base or inadequate skills, are responsible for students shortchanging themselves academically. In these cases, identifying, challenging, and altering inaccurate judgments are essential to academic success and adaptive functioning.

Writing programs such as the Writers' Workshop endeavor to build students' sense of efficacy in writing based on the belief that confidence is essential to skill improvement (e.g., Atwell, 1987; Calkins, 1994). Attention to children's self-efficacy beliefs is made an explicit feature of teacher education in such programs, and preservice teachers are taught to assess both competence and the beliefs that accompany competence as part of writing evaluations. In addition, students' own self-evaluations include self-reflection geared to understanding the affective and motivational self-beliefs that are an essential part of writing. Students' self-evaluations typically include self-reflection geared to understanding self-beliefs. McLeod (1987) rightly observed that because writing is as much an emotional as a cognitive activity, affective components strongly influence all phases of the writing process. She urged researchers to explore affective measures with an eye toward developing a "theory of affect" to help students understand how these affective processes may inform their writing. It seems clear that students' writing self-efficacy beliefs should play a prominent role in such a theory.

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