

Help seeking, self-efficacy, and writing performance among college students

James D. Williams & Seiji Takaku

Soka University | USA

Abstract: Adaptive help seeking and self-efficacy have been examined extensively over the last 20 years, but few studies have investigated their role in writing center tutoring, which has become an important component of process-oriented writing instruction. Using data collected over an 8-year period, this study analyzes the effect of writing self-efficacy (assessed using established self-efficacy scales) and help-seeking behavior (measured by frequency of writing center visitation) on writing performance as measured by composition grades. Participants were 671 undergraduates, approximately half of whom were international students for whom English was a second or third language. Data analyses showed an inverse correlation between self-efficacy and help-seeking behavior. In addition, high levels of help-seeking behavior resulted in better performance in composition classes, especially for the ESL participants; indeed, this behavior was the strongest predictor of success.

Keywords: cognition, help seeking, mentoring, self-efficacy, writing performance



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Contact: James D. Williams, University Writing Program, Soka University, 1 University Drive, Aliso Viejo, CA, 92620 | USA – jwilliams@soka.edu. Copyright: Earli | This article is published under Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 Unported license.

Help seeking in education is recognized as consisting of both adaptive and nonadaptive behaviors (Alexitch, 1997, 2002, 2006; Karabenick & Knapp, 1991; Newman, 1991, 1994). Adaptive help seeking occurs when students experience academic difficulties and actively seek assistance. Newman (2006) noted that adaptive help seeking is contingent upon a student's recognition of the need for help, knowing what type of help to seek, and whom to ask. Nonadaptive help seeking, on the other hand, typically involves two courses of action: 1) seeking assistance when it is not needed and 2) avoidance (Newman, 2008; Ryan, Pintrich, & Midgley, 2001).

Over the last two decades, a wealth of research has found that adaptive help seeking is an active strategy that serves as an aid to achieving academic success in the face of difficult or challenging tasks (e.g., Karabenick, 1998; Karabenick & Newman, 2006; Ryan et al., 2001; Webb, Ing, Kersting, & Nemer, 2006; Zimmerman & Schunk, 2001). In a traditional classroom, help seeking commonly involves a dynamic relationship between teacher and students, with the teacher encouraging students to ask questions in some instances, requiring conferences in others, and so forth.

Help-seeking behaviors are often linked to goal-orientation theory, with mastery-oriented students being more likely to manifest adaptive strategies and performance-oriented students being more likely to manifest nonadaptive strategies (Ames, 1983; Butler, 1999, 2006; Hashim, 2004; Ryan, Gheen, & Midgley, 1998). Moreover, effective learning requires students to adopt an active role rather than a passive or dependent one (Schunk & Zimmerman, 1998). Volet and Karabenick (2006) concluded that help seeking is not indicative of dependency but rather the opposite; that is, adaptive help seekers "become less rather than more reliant on others when future difficulties arise" (p. 117). On this account, help seeking is recognized as a component of self-efficacy, which consists not only of self-regulated learning but also of one's belief that he or she can perform well on a designated task (Bandura, 1986; Pintrich, 2000; Schunk & Ertmer, 2000; Winne, 1995).

Various studies have reported significant correlations between self-efficacy and help seeking. When facing need, students with high self-efficacy tend to manifest high help-seeking behavior, whereas students with low self-efficacy are, under similar circumstances, more reluctant to seek help (Linnenbrink & Pintrich, 2003; Nelson & Ketelhut, 2008; Paulsen & Feldman, 2005; Pintrich & Zusho, 2007; Tan et al., 2008). Like help seeking, self-efficacy belief has been found to be a predictor of academic success (e.g., Bouchard, Bouffard, Goulet, Denoncourt, & Couture, 2005; Lent et al. 2008; Pajares, 2003, 2006; Pajares & Usher, 2008; Usher & Pajares, 2008; Zimmerman & Bandura, 1994).

Nevertheless, some students with a high sense of self-efficacy avoid seeking help even in the face of need (Anderson & L. Williams, 1996; Cleavenger, Gardner, & Mhatre, 2007; Madni, 2008; Ryan et al., 2001). Although it seems that such nonadaptive avoidance may occur in the face of ego threat (Karabenick, 2003; Nadler, 1987; Tanaka, Murakami, Okuno, & Yamauchi 2001), another factor may be that some students tend to overestimate their self-efficacy. Pajares (2002), for example, found that

in language arts classes, middle-school boys tended to report high self-efficacy belief even when their performance was low. Rather than seeking help when their performance does not match their self-efficacy belief, such students may attribute their difficulties to external factors outside their locus of control (Ryan, et al., 2001). In their study of 4th, 7th, and 10th graders, Shell, Colvin, and Bruning (1995) suggested that a developmental factor may be involved: Younger participants tended to “equate effort and ability as causes” (p. 386)—that is, these participants’ self-efficacy beliefs were influenced by whether they associated success with internal or external attribution.

Some research suggests that overestimation of self-efficacy may be prevalent in writing classes. Examining freshman composition, Meier, McCarthy, and Schmeck (1984) measured writing self-efficacy at the beginning and end of three undergraduate courses: remedial composition, freshman composition, and honors composition (N = 271). Four independent raters assessed the participants’ writing samples from the beginning and from the end of the courses. The researchers found that participants significantly overestimated their writing ability and that self-efficacy scores predicted writing performance at the beginning of the course but not at the end. In a follow-up investigation, McCarthy, Meier, and Rinderer (1985) reported that many of the students in their study had self-efficacy beliefs that did not match their writing performance. Igo (2002) also found no significant correlation between self-efficacy and performance in his study of freshman composition. He suggested that the students’ overestimated sense of efficacy was related to a lack of appropriate, correctional feedback in high school as well as to the tendency among high school teachers to praise and reward students for merely participating in the writing process rather than for producing good work.

Female students have been found to be more likely to engage in adaptive help seeking than boys in the face of need (Alexitch, 1997; Ang, Lim, Tan, & Yau, 2004; Benenson & Koulazarian, 2008; Boldero & Fallon, 1995; Hunter, Boyle, & Warden, 2004). In her study of undergraduates, Alexitch (2002) reported that gender was a significant predictor of help seeking, with females in her study being “more likely to approach others for help” (p. 15). Pajares and Valiante (2001), in their middle-school study of gender differences in writing motivation, asked participants to respond to an adapted version the Children’s Multidimensional Self-Efficacy Scale (Zimmerman & Bandura, 1994) and found that girls reported stronger self-efficacy for writing than boys, as well as stronger self-efficacy for self-regulation. The researchers also assessed task orientation via the short form of the Children’s Sex Role Inventory (CSRI) (Boldizar, 1991) and found that writing was seen as a stereotypically female domain and that differences were related to task orientation.

Help-seeking behavior has also been investigated with regard to cultural background. Following the trend in cross-cultural psychology to identify Western societies as individualistic and East Asian societies as collectivist (e.g., Brislin, 1993; Triandis, 1994, 1995), researchers have sought to determine the extent to which these cultural orientations may influence help seeking. In a survey of 2,656 Asian and European students’ preferences (e.g., working in a small group or working alone),

Littlewood (2001), for example, found that Asian students preferred to work in a small group and that European student preferred to work alone. Shwalb and Sukemune (1998), in their study of Japanese students, found that the participants were more likely to seek assistance from peers outside the classroom than to seek help from their teachers. A variety of additional studies have reported similar findings for students from East Asian and Chinese backgrounds (e.g., Smart, Volet, & Ang, 2000; Kudo & Simkin, 2003; Wright & Lander, 2003), indicating that cultural background may, indeed, influence help-seeking behavior.

1. Writing Centers

During the 1970s, significant declines in American students' writing skills were identified as a "literacy crisis" (see Jencks, 1978; Lasch, 1978; US Department of Education, 1996). Writing centers began to emerge during this decade with the aim of shifting remediation out of the composition class to enable teachers to address rhetorical rather than structural issues (Boquet, 1999; Carino, 1995; Yahner & Murdick, 1991). In the United States, the majority of writing centers rely on peer tutors. Some staff include graduate students, but only 3% of 4-year public universities employ professional tutors, that is, persons with an advanced degree (MA or PhD) who are otherwise unaffiliated with the university (*Writing Center Research Report, 2007–2008*). Although in some instances teachers may require individual students to obtain writing center tutoring, in most cases writing center visitation is voluntary and, given the low levels of writing proficiency among undergraduates today, seems on its face to involve adaptive help seeking. Writing centers therefore would appear to offer a rich source of information related not only to writing performance but also to help seeking and self-efficacy. Nevertheless, empirical research investigating writing center visitation as a manifestation of adaptive help seeking and self-efficacy is notably absent.

The remedial aspect of many early writing centers created a variety of tensions, given the historical emphasis in American schools and universities on autonomous, individual achievement. One consequence is a tendency among educators to view the help seeking associated with writing centers as a sign of dependency, and for decades students and center directors have struggled with the resulting stigma (see Bizzaro & Toler, 1986; Garner, 2005). The perception that writing centers are merely houses of remediation—where students, abandoning all sense of agency and becoming helplessly dependent, go to have their writing "fixed"—is often held not only by students who do not visit a writing center but also by faculty (Conroy, Lerner, & Siska, 1998; Lerner, 2002; Newman, 2000; Shapiro, 1983).

Efforts to change this view (e.g., Henson & Stephenson, 2009; Lerner, 1997, 2001) on the basis of empirical research have not been very successful. The ubiquitous presence in most writing centers of international students with limited English proficiency—and thus a high level of need for assistance—has reinforced the remedial

perception. Various discussions of writing centers and their support for students with limited English proficiency appear to be based on existing cross-cultural research that has found differences in help-seeking behavior between collectivist and individualistic cultures. These differences are often interpreted as demonstrating a lack of agency among Asian students that makes it difficult for them to benefit from writing center tutoring (e.g., Cogie, Strain, & Lorinkas, 1999; Gadbow, 1992; Powers, 1995; Harris & Silva, 1993; Silva, Leki, & Carons, 1997).

Missing from the writing center literature (e.g., Hayward, 2004; Ronesi, 1995) is recognition of the attributional style reported in several studies indicating that Asian and Asian-American students, more so than white American students, tend to attribute academic success to internal and controllable factors (e.g., Holloway, 1988; Salili, 1996). That is, Asian students are more inclined to view academic success as being related to effort, whereas American students are more inclined to view such success as the result of innate ability or talent. Contrary to the notion that Asian students lack a sense of agency, their attributional style actually involves a high degree of self-efficacy as well as help-seeking and self-regulatory behaviors when faced with challenging academic tasks (Stevenson, Chen, & McDevitt, 1993).

Among the few empirical studies of writing center efficacy that have included ESL students, most suffer from design and method problems, such as too few participants, too few tutoring sessions, or merely asking students whether they thought the tutoring was beneficial (e.g., Weigle & Nelson, 2004; J. Williams, 2004). In a study that sought to avoid such problems, J. D. Williams, Takaku, and Bauman (2006) examined writing center efficacy over a period of 4 years in an effort to determine the effect of the frequency of writing center visitation on writing performance as measured by grades. The research involved 256 international ESL students, most from Japan. The researchers ran a series of regression analyses to determine the most robust predictor of grade in composition and found that frequency of visitation from the time students entered the university to when they completed the two-semester writing requirement was the most significant predictor. J. D. Williams et al. concluded on the basis of this finding that writing centers have the potential to improve students' writing performance even for nonnative speakers, provided students seek the necessary help.

The conclusion that writing center tutoring can improve students' writing skills has been challenged on several grounds (see Lerner, 2001; Thompson, 2006). In one of the more detailed critiques of research efforts, Jones (2001) argued that the quantitative study of writing center efficacy is invalid, not only because no two writing centers and no two tutoring sessions are alike but also because scholars cannot agree on what constitutes either good writing or growth in writing proficiency, leading him to ask: "How does one evaluate the impact [sic] of writing centers on writing ability if writing ability is so difficult to define?" (p. 5).

Central to Jones' (2001) argument is the perception that writing ability involves an omnibus set of skills and that writing performance is subject to a large number of factors, such as motivation, genre awareness, topic, reading ability, information

literacy, and previous experience. Isolating writing center tutoring as a “treatment” from this plethora of influences is deemed problematic. Absent the norming process associated with formal holistic protocols, Jones argued, individual writing assessment is subject to significant variation, creating reliability problems that confound evaluation of student texts; reliability is further confounded by the variation in writing instruction from teacher to teacher, from class to class, and from tutor to tutor. What typically is overlooked, however, is that these possible confounding variations become a confounding variable if and only if a relation between writing center tutoring and success in composition is found for some composition classes but not for others. In their 4-year study, J. D. Williams et al. (2006) found no such confounding effect. After examining frequency of writing center visitation and grades in freshman and advanced composition courses (both of which were required of all students), they found that the more frequently the participants visited the writing center, the better their grades, regardless of the instructor or the type of instruction.

The previous research on writing self-efficacy and achievement suggests that students who seek help in a writing center will receive higher grades in composition than those who do not. Indeed, from our perspective, much writing center research seems to be asking the wrong question. What affects students’ writing performance is not the writing center tutoring per se but rather the students’ help-seeking behavior—whether it is frequent and based on perceived need. On this account, the issue of isolating the effect of writing center tutoring from direct and indirect instruction from multiple sources is moot, owing to the interactional nature of dyadic relations in an academic setting. In a tutor–student dyad, tutor and student are agents who influence the nature of the relationship and its effect on behavioral development. Thus, self-efficacy and adaptive help seeking can be understood as central not only to human agency but also to growth (see Bandura, 1977, 2001; Holden, 1991; Maddux, 1995; Stajkovic & Luthans, 1998).

2. The Present Study

The present study was modeled on the research of J. D. Williams et al. (2006). It was designed to: 1) explore further the relation between help seeking and self-efficacy, and 2) to investigate the relations among help-seeking behavior, self-efficacy, writing center tutoring (as measured by frequency of writing center visitation), and student success in composition classes (as measured by grades).

The study involved 6 undergraduate cohorts over an 8-year period ($N = 671$). Collected data included participants’ responses to a self-efficacy belief scale administered at the beginning of their freshman year; SAT Verbal and Writing scores, where available; reading scores from the university-administered reading exam (Gates-MacGinitie Reading Test, Level AR, Form S, 4th edition); writing scores from the university’s in-house placement exam (pretest and posttest); and grades in the junior-level (Grade) writing courses.

Because international ESL students tend to score low on various tests of English proficiency, they are likely to be aware of the challenges they face in English composition. We therefore hypothesized that the international participants' overall levels of writing self-efficacy would be lower than those of the domestic students (*Hypothesis 1*). Furthermore, given existing research indicating that adaptive help seeking is related to perceived need, we hypothesized that those participants with lower levels of self-efficacy would manifest higher levels of help-seeking behavior, as measured by the frequency of writing center visitation (*Hypothesis 2*). Finally, given that existing research shows a relation between adaptive help seeking and self-efficacy, we hypothesized that self-efficacy would influence writing performance via the mediation effect of writing center visitation (*Hypothesis 3*).

3. Methods

3.1 The Writing Program

Data were collected at a small private liberal arts university in Southern California (approximately 100 new students are matriculated each year). The university has in place a comprehensive writing-across-the-curriculum (WAC) program that designates all content-area courses as writing intensive. During their first year, students are required to take a one-semester generic WAC course that introduces them to the conventions of writing in the physical sciences, the social sciences, and the humanities. During their junior year, students are required to take a one-semester advanced writing class that is associated with a content-area course in their major area of study. A student majoring in psychology, for example, would enroll in an advanced writing course that focuses on writing in psychology. The university does not have an ESL component in the writing program, so all international ESL students are mainstreamed.

3.2 Participants

The participants were 671 undergraduates. Of this number, 331 (115 males and 216 females) were domestic students whose first language was English, and 340 (137 males and 203 females) were international students for whom English was a second or third language. The participants came from 6 classes of cohorts (Class of 2005, 2006, 2007, 2008, 2009, and 2010). Data were collected for each class from the beginning of its freshman year through the end of its junior year, at which point students complete the university's writing requirement. The data from all 6 cohorts were then combined for analysis. All participants signed an informed-consent form to participate in this study as part of the university's ongoing assessment work, and the entire research was approved by the university's institutional review board (IRB).

3.3 Tutors

The writing center tutors in this study were primarily professionals with a minimum of a master's degree and 3 years of teaching experience; at no time were more than 2 peer tutors involved during any academic year, and no graduate students served as tutors. Upon hire, the tutors received training that focused on cooperative rather than collaborative practices. Collaboration signals a joint, coauthoring effort between student and tutor, whereas cooperative practices involve application of a dialogic approach to all sessions, with some modeling, and the view that each session is an extension of the classroom. Training was refreshed 3-4 times annually during staff meetings and included the provision that the structure of tutoring sessions should not be differentiated on the basis of first language or cultural background. Tutors were instructed to focus first on rhetorical/global discourse features before addressing structural/local features, although they were advised that it might not be possible to follow this procedure at all times.

3.4 Data Collection

As indicated above, data were collected over an 8-year period (2001–2009). Upon enrollment, all entering students were required to take the Gates-MacGinitie Reading Test, Level AR (adult reading), Form S, 4th edition, $\alpha = .93$). Answer sheets were forwarded to test headquarters, where they were machine scored, with results designated in terms of reading grade level. Possible scores range from a low of grade-level 3 (indicating a third-grade reading level) to a high of grade-level 13 (indicating a beginning college reading level).

In addition, all entering students were required to sit for an in-house writing exam that followed Educational Testing Service (ETS) protocols for program-wide writing assessment (pretest). These protocols included the following:

1. Each exam differed with regard to content and subject matter yet each was designed to be equal in degree of difficulty, which was determined by piloting each exam before campus-wide administration.
2. Each exam consisted of a short essay that presented a problem and an argument for a solution. The short essay was followed by the writing prompt, which presented a different problem and a possible solution that students were asked to argue for or against.
3. Students were allowed two hours to complete the exam.
4. The completed writing exams were scored holistically by writing program staff.
5. Scoring involve designating a chief reader who with 3 assistants established a scoring rubric based on a 6-point scale with 1 being low and 6 being high. The chief reader and the assistants then reviewed the pool of completed essays to identify anchor papers that were characteristic of the each point on the rubric.

6. Readers, consisting of writing center staff, then were socialized to the rubric via the anchor papers to ensure high interrater reliability.
7. After socializing, the staff read and scored all papers. Each paper was read twice by two different readers, each of whom masked his or her score. At the completion of scoring, the masking was removed to reveal scores. Any paper with scores that varied by more than 1 point was read a third time by the chief reader, whose score prevailed. Interrater reliability for all the scoring throughout the period of the study ranged from .84 to .91.

At the end of their sophomore year, students were required to retake this exam (posttest) for placement into their junior-level writing class. The posttest was scored using the same procedures as used for the pretest.

The university's writing center keeps records of all tutoring sessions, which allowed matching students with the total number of their visits to the center. It should be noted that the writing center does not limit the number of tutoring appointments per week that students can make. Students' grades in composition, as well as SAT verbal, writing, and reading scores, were obtained from the registrar's office. Letter grades (*A–F*) were converted to a 5-point scale (*A* = 4, *F* = 0).

The final data set for analysis consisted of all enrolled students (those who did as well as those who did not visit the writing center) during the 8-year period of the study (*N* = 671). It also included the total number of writing center visits (15,966), as well as the following variables:

- SAT Verbal score
- SAT Writing score (where available)
- Pretest and posttest writing exam scores
- Grade (junior-level composition)

Writing self-efficacy (WSE) was assessed using a combination of two well-established writing self-efficacy scales—one by Shell, Murphy, and Bruning (1989), and one by Zimmerman and Bandura (1994). The resulting scale consisted of 45 items with an overall alpha of .95. To facilitate analysis, the individual scores were averaged to create an index variable (WSE Index) with a range of 0 (low writing self-efficacy) to 100 (high writing self-efficacy).

The number of writing center visits was entered for all participants from the time they entered the university to when they completed the junior composition course (Writing Center Visits, or WCV). An alpha level of .05 was used for all statistical analyses.

4. Results

4.1 Descriptive Statistics

Examining all students over the 8-year period of the study, SAT Verbal scores ranged from 250 to 780 ($M = 503.63$; $SD = 110.90$). SAT Writing scores ranged from 380 to 760 ($M = 545.22$; $SD = 88.11$). Gates-MacGinitie reading scores ranged from grade-level 5.3 to grade-level 13 ($M = 10.16$; $SD = 2.23$). Writing Self-Efficacy Index scores ranged from 10 to 99 ($M = 63.31$; $SD = 18.83$). Pretest writing exam scores ranged from 1 to 6.0 ($M = 2.76$; $SD = 1.07$). Posttest writing exam scores ranged from 1 to 6.0 ($M = 2.93$; $SD = 1.09$). Cumulative writing center visits (WCV) from the time the participants entered the university to when they completed the junior-level composition course ranged from 0 to 300 ($M = 41.75$; $SD = 43.06$). Grades in junior composition ranged from 1.7 to 4 ($M = 3.42$; $SD = .58$). The distributions of all of the above variables are within the expected range of chance fluctuations. Table 1 summarizes these data.

Table 1. Descriptive statistics for all variables

	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>SD</i>	<i>Standard Error of Skewness</i>
<i>Cumulative WCV</i>	0	300	41.75	43.06	.13
<i>SAT Verbal</i>	250	780	503.63	110.90	.11
<i>SAT Writing</i>	380	760	545.22	88.11	.17
<i>In-house Reading</i>	5.3	13	11.55	2.09	.10
<i>WSE Index</i>	10	99	63.31	18.83	.15
<i>Pretest</i>	1	6	2.76	1.07	.09
<i>Posttest</i>	1	6	2.93	1.09	.12
<i>Grade</i>	1.7	4	3.42	.58	.13

4.2 Testing Hypotheses

Hypothesis 1. To test hypothesis 1, we performed a series of independent samples *t*-tests on all test scores and writing self-efficacy scores as a function of the ESL/Domestic status. As shown in Table 2, at the beginning of their freshman year, domestic students not only outperformed the international ESL students on all tests, but also held significantly higher writing self-efficacy belief than did the international ESL students.

Hypotheses 2 and 3. We first calculated correlation coefficients among the four variables used in the regression analyses. The results are shown in Table 3. To test hypotheses 2 and 3, we performed a series of multiple regression analyses using the ESL/Domestic status (dummy coded), writing self-efficacy scores, and frequency of

writing center visits as the predictor variables and junior composition course grade as the criterion variable.

Table 2. Descriptive statistics and results of the t-tests as a function of the ESL/Domestic status

	<i>International</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>t</i>	<i>p-value</i>
<i>WSE Index</i>	<i>ESL</i>	53.96	20.03		
	<i>Domestic</i>	70.39	14.32	-7.604	.001
<i>SAT Verbal</i>	<i>ESL</i>	440.79	94.81		
	<i>Domestic</i>	565.02	89.08	-14.021	.001
<i>SAT Writing</i>	<i>ESL</i>	516.08	73.09		
	<i>Domestic</i>	561.94	88.78	-3.770	.001
<i>In-House Reading</i>	<i>ESL</i>	10.60	2.26		
	<i>Domestic</i>	12.64	1.13	-13.771	.001
<i>Pretest</i>	<i>ESL</i>	2.35	.94		
	<i>Domestic</i>	3.15	1.03	-10.260	.001
<i>Posttest</i>	<i>ESL</i>	2.69	.98		
	<i>Domestic</i>	3.26	1.16	-5.109	.001

Table 3. Correlation coefficients among International vs. Domestic status, Writing Self-Efficacy (WSE), Writing Center Visits (WCV), and Junior Composition Grade (Grade 2)

	<i>I vs. D</i>	<i>WSE</i>	<i>WCV</i>	<i>Grade 2</i>
<i>International vs. Domestic</i>	-			
<i>Writing Self-Efficacy (WSE)</i>	.41**	-		
<i>Writing Center Visitation (WCV)</i>	-.47**	-.32**	-	
<i>Grade 2</i>	-.14*	.25*	.26**	-

N = 585, * $p < .05$; ** $p < .01$

Note. International vs. Domestic status was dummy coded using "1" for international students and "2" for domestic students.

In the first model, we entered the ESL/Domestic dummy variable to predict self-efficacy. We found that the ESL students indeed had a lower sense of self-efficacy than did domestic students ($\beta = .22, p < .001$), which was congruent with the earlier *t*-test. In the second model, we entered both the ESL/Domestic dummy variable and self-efficacy scores to predict writing center visits. From this analysis, we found the following: 1) the

ESL students visited the writing center more often than did domestic students ($\beta = -.47$, $p < .001$); and 2) the lower the level of self-efficacy, the more often students visited the writing center ($\beta = -.07$, $p < .05$). In the third model, we entered all three variables to predict grade, which showed that writing center visitation was the only unique significant predictor of grade ($\beta = .26$, $p < .001$). The results indicated a mediation path with writing center visitation being a mediator between writing self-efficacy and grade in composition. The comparatively lower self-efficacy among the ESL students was related to more adaptive help seeking, as evidenced by the comparatively higher frequency of their visits to the writing center. Figure 1 shows the resulting path model with all significant paths.

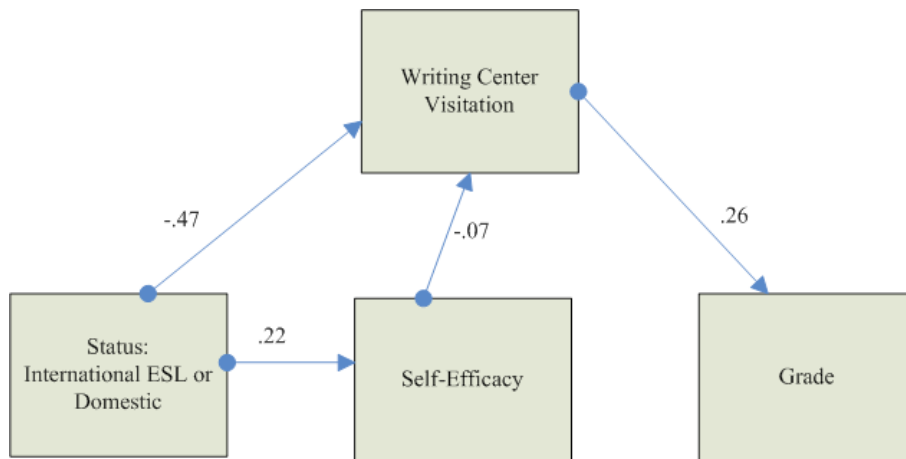


Figure 1: Final regression model with all significant paths.

In light of the above findings, we then ran an independent samples *t*-test on grades between the two groups. The analysis showed that the international ESL students ($M = 3.50$; $SD = .53$) significantly outperformed the domestic students ($M = 3.32$; $SD = .62$; $t(657) = 2.76$, $p < .01$). This finding further confirmed our prediction that adaptive help seeking was positively related to the students' writing proficiency.

5. Discussion

As anticipated in our first hypothesis, the international ESL students had significantly lower levels of self-efficacy in writing than the domestic students. Given that most of these students had limited English-language proficiency, this finding was unsurprising. However, contrary to previous findings showing that students with low self-efficacy tend to avoid seeking help, the ESL students in the present study were active help seekers, which confirmed our second hypothesis. Indeed, the frequency of their writing center visitation was significantly higher than that of the domestic students. We suspect

that this outcome was related to the ESL students' perceived need as well as to the attributional style associated with Asian students reported in previous studies. Because this outcome was unexpected, the study did not include any assessment of attributional style, which any future investigations should include.

As noted in the literature review, several studies have reported that girls tend to have higher levels of writing self-efficacy than boys. These differences were not the focus of the present study, so we did not hypothesize any gender effect, but we nevertheless ran a post-hoc analysis to examine possible gender differences with respect to self-efficacy and frequency of writing center visitation. We found none. The majority of the previous research on gender differences for writing self-efficacy was performed on children and young adolescents, however. The absence of any measureable gender differences among our undergraduates suggests that as children age gender differences decline, a possibility that warrants more research.

Although we hypothesized that writing self-efficacy would influence writing performance, the outcome of the independent samples *t*-test comparing junior-level grades for the international ESL students and the domestic students was unexpected. We anticipated that, among the domestic students, high self-efficacy and its related adaptive help seeking would be positively related to success. It seemed unlikely, however, that these factors could overcome the international ESL students' general lack of English writing proficiency and their low levels of writing self-efficacy. This was not the case. The analysis showed that those students who frequently obtained writing center tutoring received higher grades in composition than those who did not, regardless of their ESL or native-English-speaker status. The frequency of writing center tutoring seemed to be especially valuable for the ESL students, who outperform their domestic cohorts, receiving significantly higher grades in composition. This finding has important implications for universities in the US, Europe, the UK, and other countries with large international ESL student populations. If generalizable, it indicates that even students with minimal English proficiency are able, when appropriate help is available, to make significant progress toward mastering academic writing.

Our focus on the relation between self-efficacy and help seeking resulted in an obvious shortcoming: measuring what effect, if any, writing center tutoring had on the students' self-efficacy at the end of their junior year. Thus, additional research seems warranted in light of the findings reported here. Nevertheless, the results of the present study illustrate how writing center efficacy can be assessed empirically by examining the relation between frequency of visitation and grades. Such assessment could readily replace the common practice of merely tabulating the number of tutoring sessions or students served per academic year. Finally, the fact that none of the international ESL students received tutoring that was in any measurable way different from the domestic students and nevertheless excelled should reduce the anxiety of writing center staff who may fear that such students' cultural differences hinder effective tutoring.

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