College students' perceived threat and preference for seeking help in traditional, distributed, and distance learning environments

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Abstract:
The purpose of the present study was to examine how college students' help seeking behavior varied across different instructional learning environments. Four hundred and seventy four (N = 472) students enrolled in distance, distributed, and traditional classes were queried about their help seeking preferences, help seeking tendencies, personal threat in seeking help, and academic self-efficacy. It was hypothesized that students enrolled in courses with an online computer component would report (a) higher instances of help seeking behavior, particularly from instructors; and (b) feel less threatened to seek help than students in traditional learning environments. It was also expected that student achievement would be significantly correlated with formal help seeking, academic self-efficacy, and perceived threat to seek help. Lastly, it was postulated that students would report that they prefer to use electronic means to seek help and that they find it more effective. Overall the hypotheses of this study were supported. Educational implications and recommendations are provided regarding the type of technological tools that college instructors might consider using in their courses to promote help seeking.
Keywords: Help-seeking; Learning environments; Perceived threat; Technology

Article:
1. Introduction
Research evidence in traditional classroom settings shows that seeking needed assistance is an important self-regulatory strategy and it is highly correlated with student achievement (Ames, 1983; Karabenick, 1998; Kitsantas, 2002; Magnusson & Perry, 1992). Help seeking is defined as "an achievement behavior involving the search for and employment of a strategy to obtain success" (Ames & Lau, 1982, p. 414). It assists students in dealing with complex concepts that they either do not understand or feel that they are unable to comprehend on their own (Butler & Neuman, 1995; Ryan & Pintrich, 1997).

Researchers propose that when college students are confronted with poor performance, they engage in both achievement related and help seeking behaviors (Ames & Lau, 1982; Karabenick & Knapp, 1991). Karabenick and Knapp (1991) classified these behaviors into five categories: Formal help seeking (seeking assistance from official or formal sources such as instructors, teacher assistants, etc.); Informal help seeking (seeking assistance from peers and friends); Instrumental activities (activities designed to improve performance such as studying harder, taking notes, etc.); Lowering performance aspirations (taking a lighter load, registering for easier

classes, etc.); and Altering goals (another school, changing majors, etc.). Research shows, however, that the majority of college students do not seek help, particularly through formal channels. In fact, those who encounter academic difficulties are more likely to first engage in instrumental activities designed to help one improve his/her performance, followed by seeking help from informal sources (primarily from peers), then seeking help from formal sources (instructors and support services), and lastly, lowering their aspirations and altering their goals (Karabenick & Knapp, 1991). The question is why do college students avoid seeking help, particularly from formal sources?

The factors that encourage or discourage college students in seeking help in the classroom have been examined thoroughly in the literature during the last decade (Karabenick, 1998). It has been shown that the act of help seeking is a complex phenomenon, highly dependent upon the (a) classroom focus, (b) students' perceptions and beliefs, and (c) a teacher's instructional approach and openness and flexibility. First, studies show that the goal structure of a classroom setting impacts student help seeking behavior. That is, task-focused classrooms that emphasize mastery of the content, understanding, and effort promote student help seeking behaviors; in contrast, achievement-focused classrooms that focus on ability decrease student help seeking (Newman, 1991; Ryan, Gheen, & Midgley, 1998). In addition, the social climate of a classroom and the social relationships among students also influence help seeking (Ryan et al., 1998; Ryan & Pintrich, 1997). For example, there is research evidence that adolescents who are unsure of themselves cognitively and socially are less likely to seek help because of increased perceived threat to their self-esteem (Ryan & Pintrich, 1997). In contrast, students who feel more affection towards their peers and teachers are more likely to report needing help (Ryan et al., 1998; Ryan, Hicks, & Midgley, 1997).

Second, reasons for failing to seek needed help may also include psychological factors such as academic self-efficacy, threat to self-esteem, and social embarrassment (Karabenick, 1998; Newman & Goldin, 1990). Self-efficacy, defined as perceptions of one's capability for performing an activity, such as completing schoolwork, is highly correlated with help-seeking behaviors. Unlike low self-efficacious students, those with high self-efficacy beliefs about their academic capabilities are less likely to interpret their need for help due to lack of ability, and therefore they tend to seek help more frequently (Newman & Goldin, 1990; Pintrich & Schunk, 1996; Ryan et al., 1998).

Further, the process of help seeking is determined largely by the threat to one's self-esteem. The potential cost to self-esteem when seeking help is referred to in the literature as one's perceived threat (Fisher, Nadler, & Whicher-Alagna, 1981; Karabenick & Knapp, 1991). Research evidence suggests that the degree of perceived threat is directly related to avoiding help in adolescents (Karabenick, 1998; Newman & Goldin, 1990). It has also been shown that students who may need help the most, fail to seek it, because they feel it may be a public admission of their past academic failures to their fellow students and a confirmation of their lack of ability (Ames & Lau, 1982).

Lastly, teachers' qualities may also influence students' help seeking behavior. Instructors who are characterized as warm, caring, being available and affectionate stimulate help seeking in the classroom (Ryan & Pintrich, 1997). Additionally, teacher activities such as providing descriptive

praise when students ask questions, which increases the overall number of questions asked by students (Glover & Zimmer, 1982), and clearly explaining what resources are available (Ames & Lau, 1982) leads to higher levels of student help seeking. In synopsis, research suggests that help seeking is influenced primarily by classroom goal structure (student perceptions and teacher approaches to instruction) and social climate rather than specific course content.

However, with the rapid growth in distance-delivered learning and the use of emerging technologies, research involving distance learning students and/or Web-based enhanced courses is needed to determine the implications for college students seeking assistance on the "information superhighway". The present study seeks to answer the following important questions involving students enrolled in traditional, web-enhanced, and distance learning learning environments: Do college students prefer face-to-face interaction or electronic means of seeking help? Do they find it more effective to seek needed help in person or through electronic means? What type of achievement related and help seeking tendencies do students engage in when faced with poor performance? Is students' perceived threat in seeking help in distributed and distance courses alleviated more when compared to traditional leaning environments?

With the continuing advances in technology, such as computer-supported collaborative learning (Knowledge Webs, Electronic Performance Support Systems), multimedia/hypermedia, and more realistic learner simulations (Dede, 1996), some of the psychological and logistic barriers found to affect traditional college students' help seeking may be significantly alleviated, or even removed. According to Dede (1996), emerging technologies provide (a) both educators and students with new means of communicating with one another and (b) new integrated, traditional face-to-face and online learning environments. Such integrated face-to-face and online mediums are referred to as distributed learning.

A few sporadic studies show that overall use of virtual classrooms, email, and distance learning technologies lead to enhanced student collaboration and participation in distributed and distance learning environments (Anderson & Lee, 1995; Dede, 1996; Keefer & Karabenick, 1998). Specifically, it has been shown that e-mail is less threatening than face-to-face communication (Anderson & Lee, 1995; Karabenick & Knapp, 1988; Mabrito, 1991), and encourages interaction among students (Kinkead, 1987). For example, Karabenick and Knapp (1988) randomly assigned 28 undergraduate psychology students into two groups, both of which interacted with computer-based instruction software: one with computer-based help and the other with help only being available by a research assistant. The results showed that 86% of the participants who had the option to seek help privately via computer chose to seek help while only 36% of the participants sought help when the research assistant was the available source of help. The researchers concluded that computers enhance student privacy by providing them with "the freedom to fail without having to suffer the negative social consequences that would result in public displays of inadequacy" (p. 461). Similarly, Anderson and Lee (1995), using a qualitative content analysis to identify the potential that email has for teaching and instruction at the higher education level, found that e-mail allows students to take risks and interact with each other and develop a sense of community amongst themselves; but also frees them from the constraints of time and distance.

However, no studies have been conducted systematically to investigate how students' achievement related and help seeking tendencies, academic self-efficacy, and ones' perceived threat vary

among different learning environments that incorporate a variety of technological tools to enhance instruction. This is an important area of study because of (a) the explosive growth of Web-based courses and (b) the new challenges for delivering effective instruction and providing the necessary support and guidance to meet the special needs of distance learning students.

In the present study, it was hypothesized that college students enrolled in courses with an online component would report: (a) higher instances of formal help, informal help seeking behavior, and engagement in instrumental activities; and (b) feeling less threatened to seek help than students in traditional learning environments. It was also postulated that all students regardless of the class enrolled would report a preference in using electronic sources to seek help. Finally, it was expected that student achievement would be positively correlated with the amount of help seeking and academic self-efficacy, and negatively correlated with perceived threat to seek help. Given that help seeking is correlated with academic achievement (Karabenick & Knapp, 1991; Zimmerman, 2000), the findings of this study are important in helping instructors construct learning environments that provide students with a multitude of desirable and less intimidating mechanisms for seeking help.

2. Methods
2.1. Participants
The participants were 479 undergraduate and graduate level college students from two Southeastern Universities. They were enrolled in eight classes representing a different instructional medium: (a) a traditional classroom only with no Web component (TCO) (three courses, n = 100); (b) a distributed classroom based with a Web component (DCB) (one course, n = 133); (c) a Web-based distance education course with both asynchronous and synchronous interaction (WBASI) (n = 123) and (d) a Web-based distance classroom course with only asynchronous interaction (WBAI) (three courses, n = 116). Of the 479 participants, seven were dropped due to incomplete surveys leaving a final sample of 472 participants. Eleven instructors were asked to participate in the study and nine agreed. However, due to poor participation rates in two courses ranging in response rates from two to four students, these data were not used in the final results.

The participants' mean age was M = 21.30 (4.10). Three hundred and sixty one (76.5%) of the students in the sample were of European descent, 23 (4.9%) were Hispanic, 48 (10.2%) were African American, 21 (4.4%) were Asian, 14 (3%) other and 5 (1%) did not report their ethnicity. There were 164 (34.7%) males and 308 (65.3%) females. Thirty-one of the students were freshmen, 67 sophomore, 197 juniors, 175 seniors, and 2 did not report. The students' GPA was M = 3.20 (.25). In order to determine if there were significant differences in students' proficiency with using a computer or proficiency with e-mail among the different classes and types of learning environments, a one-way analysis of variance revealed no significant differences; however significant differences emerged among the four groups with distance learners reporting being more proficient in using message board $F(3,441) = 20.49$, $p < .001$ and chat $F(3,432) = 10.03$, $p < .001$.

3. A description of the courses and the four learning environments
Courses in the traditional setting with face-to-face interaction included three courses in educational psychology (n = 40, 90% response rate; n = 34, 96% response rate and n = 26, 60% response rate) for a total of 100 students. The distributed courses included two face-to-face world

geography courses with a supplemental Web site (n = 72, response rate of 59% and n = 61, response rate, 71%). The distance courses with both synchronous and asynchronous elements were two introductory information studies courses (n = 58, 75% response rate and n = 65, 85% response rate). Finally, the distance online asynchronous courses consisted of three information studies distance courses (n = 116) with the first course having an n = 40 and a response rate of 70%; the second with an n = 35 and a response rate of 58%; and the third with an n = 41, response rate of 66%.

The distributed classes differed from the traditional face-to-face classes because they included a Web site supported by a course management tool containing the syllabus, reading list, and prerecorded lectures. The course Web site also contained (a) an electronic mailroom with email addresses of all students and their course staff, and (b) message boards that were standard, text-only, threaded, asynchronous discussions, where students could post a comment that other students or an instructor could respond. The Web-based distance courses contained a web site with course information and either synchronous and asynchronous interaction or asynchronous interaction only. The synchronous interaction was supported through ichat, a software that allows real time, text-only interaction, and private messaging between students and their instructors. It was held in the evenings at a set time and day in a virtual classroom where students could interact with their instructor and fellow students in real time, text-only communication. The asynchronous interaction took place only online. The primary mode of communication was through the course threaded discussion message board and e-mail. These courses were selected because they were all introductory and required courses across different disciplines.

3.1. Measures
All participants completed an online consent form and responded to five online scales.

3.1.1. Personal data questionnaire
This form consisted of questions pertaining to the respondent's age, year in school, ethnicity, gender, GPA, and their proficiency with using computers, email, electronic discussion boards, and synchronous chat.

3.1.2. Help seeking preference survey
This survey assessed the students' preference and perceptions of the effectiveness of seeking help from the course instructors, and/or peers using traditional face-to-face interaction or electronic methods. Example items were "When you need help for your course work which of the following options do you prefer in seeking help from your instructor?" or "When you need help for your course work which of the following options have you found most effective in seeking help from your instructor?" followed by (a) In person; (b) telephone; (c) e-mail, (d) message board, and (e) chat? Students were also asked to explain why they found the preferred source effective. The same questions were asked for obtaining needed help from their classmates.

3.1.3. Academic self-efficacy scale
In order to assess the participants' self-efficacy beliefs in earning at least a "C", "B", and or an "A" in the course where they were enrolled, an interval scale ranging from 0 to 100 in intervals of 10 (0 – not sure at all, to 100 – extremely sure) was developed. This scale consisted of three items. The reliability coefficient of this scale was .81.

3.1.4. Students' perceptions of threat scale

The degree to which the students felt threatened in seeking help was measured using a 9-item, 6-point rating scale developed by Karabenick and Knapp (1991). Respondents were asked to rate how strongly they agreed to nine statements (1 = strongly disagree, 6 = strongly agree) related to personal threat to self-esteem when seeking help. Items on this scale included "I would feel un-easy about what people would think if they found out I needed help in order to succeed academically" or "I would feel like a failure if I needed help in this class?"

3.1.5. Assessment of achievement related and help seeking tendencies scale

The participants' help seeking behaviors were assessed using a scale developed by Karabenick and Knapp (1991). Students were asked to indicate the degree to which they would take certain actions if they were not performing well in their course. For this, a 7-point rating scale ranging from 0 (not at a likely to perform the action) to 6 (definitely would perform the action) was used. Students' responses were classified into five categories: (a) formal help seeking (e.g., asking instructors for help); (b) informal (e.g., obtaining help from peers); (c) instrumental activities (e.g., developing methods to help one perform better, taking better notes); (d) lowering performance aspirations (e.g., selecting easier courses); (e) altering goals (e.g., changing majors).

3.1.6. Course achievement

Students' achievement in each course was measured using final grades. Their grades ranged from 33 to 100 points.

3.2. Procedures

Eight classes were selected upon attaining verbal permission from each instructor three weeks prior to the end of the semester. All students were informed of the scope of the study via e-mail and/or in classes. Following electronic submission of an informed consent form, they were provided with a specific Web site where all five surveys were posted. All participants were given extra credit for their participation in the survey study, and thanked for their participation.

4. Results

Chi-square (X^2) tests were used to assess differences in the students' help seeking preferences among the four instructional environments. A one-way analysis of variance (ANOVA) was used to assess differences in students' help seeking tendencies, academic self-efficacy, and perceived threat among the four learning environments. In addition, correlational analyses were conducted to determine the relationships among all dependent measures. In order to ensure that there were no initial differences among the classes within each learning environment, a one-way analysis of variance was performed. No significant differences were found among the classes within all four learning environments for all variables, including academic self-efficacy, perceived threat, and help seeking preferences and behaviors.

Table 1 presents the frequencies of the students' preferred methods of seeking help from their instructors and classmates. There were differences in students' preferences for seeking help from the instructor among the four learning environments, $X^2(12) = 82.50$, $p < .001$. Students reported that they preferred seeking help by contacting the instructors via electronic tools (f = 367) rather than in person (f = 90) or by telephone (f = 16). Significant differences were also found in

students' help seeking preferences from classmates, $X^2(12) = 89.48$, $p < .001$. Students reported that they were more likely to contact their peers for help using electronic resources (f = 301) than in person (f = 119) or by telephone (f = 54). Surprisingly, few students reported preferring the use of chat (f = 35) to obtain help from either instructors or classmates.

Regarding the degree to which students found it more effective to obtain help in person, via telephone or through electronic means, a significant chi square $Z^2(12) = 107.11$, $p < .001$, indicated that among the four learning environments students reported that it was more effective to obtain

Table 1
Frequencies of methods for help seeking preferences from instructors and classmates for each learning environment

Source seeking help	Learning environment			
	TCO	DCB	WBASI	WBAI
Instructors				
In person	29	38	16	7
Telephone	1	1	10	4
E-mail	70	94	73	95
Message Board	0	1	22	10
Chat		0	2	0
Classmates				
In person	25	92	32	20
Telephone	15	20	19	4
E-mail	58	12	42	60
Message Board	2	4	14	31
Chat	0	6	16	1

Table 2
Frequencies of student reports rating the effectiveness of methods for seeking help from instructors and classmates in each learning environment

Source of seeking help	Learning environment			
	TCO	DCB	WBASI	WBAI
Instructors				
In person	26	50	18	15
Telephone	2	1	10	4
E-mail	72	78	56	85
Message Board	2	4	31	12
Chat	0	0	7	0
Classmates				
In person	28	47	27	18
Telephone	15	10	19	4
E-mail	55	71	42	59
Message Board	2	2	18	33
Chat	0	5	17	2

help from the instructors via electronic tools (f = 345) than in person (f = 109) or telephone (f = 17). Significant differences were also found in students' reports of effective methods for obtaining help from their classmates, $X^2(12) = 104.62$, $p < .001$. Students reported that they felt

it was less effective to seek help from their peers in person (f = 120) than by using electronic tools (f = 306) or by telephone (f = 48), see Table 2.

Table 3 presents the means of all dependent variables for each type of learning environment. The ANOVA revealed that students enrolled in the four learning environments differed significantly in their formal help seeking intentions (e.g., asking for help from instructors, or support services) F(3,460) = 31.16, p < .001. According to post hoc tests, students enrolled in traditional classroom-based courses (M = 2.71) were less likely to seek help from formal sources than those enrolled in the distributed (M = 3.82) and Web-based distance courses with asynchronous and synchronous elements (M = .07), or the Web-based distance course with only asynchronous interaction (M = 4.29), ps = .001. Post hoc tests also revealed no significant differences between the two Web-based courses (with synchronous and asynchronous interaction or only asynchronous) and the distributed learning environments in formal help seeking.

There were also significant differences in students' levels of informal help seeking F(3,469) = 4.93, p < .01. Post hoc Tukey tests revealed that students in the distributed class with a web component (M = 4.51) sought significantly more informal help from classmates than those enrolled in a Web-based distance course with an asynchronous element (M = 3.80, p < .001). Regarding instrumental activities, no significant differences among the four learning environments emerged. Finally, analyses revealed no significant differences among the four types of learning environments in students' tendencies to lowering aspirations, and/or altering their goals.

The ANOVA for perceived threat to self-esteem for help seeking yielded significant differences among the four learning environments, F(3,470) = 110.21, p <.001. According to Tukey tests, students in the traditional classes felt more threatened in seeking help (M = 3.07) than students enrolled in the distributed class (M = 1.63, p < .001), the Web based with synchronous and

Table 3
Means and standard deviations of all dependent variables for students enrolled in traditional classroom only (TCO), distributed classroom based (DCB), Web based with asynchronous and synchronous interaction (WBASI), and Web based with asynchronous interaction (WBAI)

Variable	Learning environment			
	TCO	DCB	WBASI	WBAI
Formal help seeking				
M	2.71	3.82	4.07	4.29
SD	1.01	1.39	1.37	1.26
Informal help seeking				
M	4.15	4.51	4.19	3.80
SD	1.44	1.43	1.39	1.56
Instrumental activities				
M	4.34	4.58	4.54	4.27
SD	1.48	1.29	1.29	1.34
Lowering performance aspirations				
M	1.49	1.56	1.64	1.27
SD	0.95	1.21	1.27	1.17
Altering goals				
M	0.89	0.98	0.82	0.70
SD	0.85	0.81	0.95	0.87
Perceived threat				
M	3.07	1.63	1.49	1.37
SD	1.09	73	0.63	0.60
Academic self-efficacy				
M	83.69	80.21	84.08	89.13
SD	11.19	12.21	14.31	9.35
Final grades				
M	83.14	80.49	86.90	87.95
SD	9.12	10.94	9.01	7.61

asynchronous interaction distance courses (M = 1.49, p<.001) or the Web based with synchronous interaction only distance course (M = 1. 37, p < .001).

Significant differences were also revealed in students academic self-efficacy beliefs among the four instructional modes, $F(3,470) = 11.61$, $p < .001$. According to Tukey tests, students enrolled in the asynchronous only distance courses (M = 89.13) had significantly higher self-efficacy beliefs than those enrolled in traditional (M = 83.69, p < .01), Web based with synchronous and asynchronous interaction (M = 84.09, p <.01) or distributed courses (M = 80.21, p < .05).

Correlational analyses among all dependent measures revealed significant correlations among the variables. Specifically, help seeking threat was inversely related to formal and informal help seeking intentions, and one's self-efficacy beliefs to seek help. Students' grades were also significantly correlated with formal and informal help seeking tendencies, academic self-efficacy and negatively related with perceived threat. Low aspirations were positively related to altering of

Table 4
Correlations among composite measures of help seeking, academic self-efficacy, perceived threat and final grades

Variable	1	2	3	4	5	6	7	8
Formal help seeking	1.00							
Informal help seeking	0.20**	1.00						
Help seeking instrumental activities	0.27**	0.32**	1.00					
Help seeking lowering aspirations	−0.11*	0.05	0.11*	1.00				
Help seeking altering goals	−0.05	0.16**	0.06	0.53**	1.00			
Academic self-efficacy	0.43**	0.15**	0.20**	−0.18**	−0.12*	1.00		
Perceived threat	−0.48**	−0.14**	−0.16**	0.09	0.11*	−0.36**	1.00	
Grades	0.45**	0.17**	0.31**	−0.14*	−0.15**	0.68**	−0.40**	1.00

* $p < .05$.
** $p < .01$.

goals. In addition, there was a positive correlation between altering goals and informal help seeking. The correlations among help seeking behavior intention tendencies, academic self-efficacy, perceived threat and grades are shown in Table 4.

5. Discussion

The present study hypothesized that college students would prefer using electronic means to seek help from instructors. This hypothesis was supported by the data. Chi-square analyses revealed that students enrolled in traditional, distributed, and Web-based distance learning classes with either asynchronous interaction and/or synchronous and asynchronous interaction preferred to seek needed help from their teachers electronically, primarily through using e-mail. Participants also reported that seeking help from instructors via electronic means, particularly e-mail, was more effective than seeking help in person or by telephone. Previous research findings show that students prefer to use e-mail because it allows them to engage in a private dialog, and gives them ample time to construct a question. Further, the absence of social (sex, age, race, etc.), and non-verbal cues diminishes the potential of feelings of embarrassment created while asking a question in person (Keefer & Karabenick, 1998). Finally, students can read discussion board postings or synchronous chat sessions, without participating, maintaining an anonymous profile while still being part of the discussion (Carswell, Thomas, Petre, Price, & Richards, 2000).

Unexpectedly, only 56 students found it more effective to seek help using message boards and chat to receive help from their instructors. Students, who preferred these means of electronic help, indicated that it was easier and more effective to use electronic message boards to seek help because it enabled them to view other questions that had been asked and answered either by an instructor or another student. The students stating a preference for synchronous chat noted the advantages of "real time" interaction such as getting answers to their questions quickly and the opportunity for collaboration. There are a number of possible explanations for why students do not prefer synchronous chat as a way to seek help from their instructor. The instructional environment of chat is a one-to-many context in which instructors are "chatting" with a number of students. This arrangement is not conducive to allowing instructors to focus too much time on any one student. In addition, there is a lag time between questions and answers and both questions and answers are usually presented to the whole class, therefore increasing the potential for public embarrassment as well as personal threat for students.

In regard to seeking help from classmates, students reported overall that they preferred seeking help from classmates via electronic sources, providing support for the hypothesis of the present study. However, a number of students, particularly in the distributed and traditional classes, preferred, and found more effective, seeking help from their classmates in person. This may be due to the fact that computer technology does not provide personalized and just in time help.

Support was also found for the hypothesis that students enrolled in courses with a Web element would report higher instances of formal help seeking than traditional students. Research in traditional classroom settings clearly shows that college students resist seeking help from formal sources (Keefer & Karabenick, 1998; Knapp & Karabenick, 1988) because they report feeling embarrassed, fear of being perceived as "dumb" by others (Ryan & Pintrich, 1997) and have an increased perceived threat to self-esteem (Karabenick, 1998). However, it seems these feelings of resistance in seeking help from formal courses are alleviated with electronic tools of communication. As the WebCT founder and President Goldberg (2001) notes, students in web-enhanced courses become more proactive participants in a classroom, because shyness, language and learning styles barriers are removed.

One of the most interesting hypotheses of this study was that students in distributed and Web-based distance learning courses would report feeling less threatened to seek help than students in traditional learning environments. Support was provided for this hypothesis. Specifically, students enrolled in traditional environments of instruction felt more threatened in receiving help than students enrolled in distributed and distance learning settings. These findings show that distributed and distance learning environments provide less threatening opportunities to seek help than traditional learning environments. Electronic, asynchronous means of seeking help presents less of a threat to self-esteem than face-to-face or other kinds of real time interaction, and provides users with the opportunity to take their time, reflect, and refine comments, questions, and answers. In addition to reducing students' threat in asking questions, student explanations provided indicate that, convenience (anytime), flexibility (not constrained to office hours), and the ability to thoughtfully word questions or comments and receive responses in a timely fashion made help seeking via e-mail highly effective. Other researchers examining the role of technologies and particularly e-mail on students' help seeking behaviors (Anderson & Lee, 1995; Mabrito, 1991; Keefer & Karabenick, 1998) have shown similar findings indicating that electronic communication provides privacy; it is less threatening and allows students to take greater risks. In addition, Roschelle, Pea, Hoadley, Gordin, and Means (2000) contend that use of email, groupware, newsgroups, chat rooms, and message boards, makes targeted, timely feedback readily available for learners, thus supporting meaningful learning through informative, rapid interaction.

Lastly, as it was expected student's academic achievement was positively correlated with the amount of formal help seeking, and academic self-efficacy, and negatively correlated with perceived threat to seek help, and their help seeking tendencies of lowering their aspirations or altering their goals. These relationships provide evidence to support the findings of Kitsantas (2002) and Zimmerman (2000) that high achieving learners are more likely to report high self-efficacy beliefs regarding their academic performance, and that they are far more likely to remain committed to their goals than low achieving students. These findings also lend support to Karabenick's (1998) contention that help seeking is positively related to student academic

achievement. Furthermore, the findings of the present study revealed that self-efficacious students were more likely to seek help from formal sources and less likely to feel threatened in seeking help. These results were not surprising as self-efficacy is a powerful predictor of one's behavior, effort expended, and persistence in the task in the face of obstacles (Bandura, 1986, 1997).

In summary, despite the limitations of the study outlined below, these initial findings show that technology can contribute significantly to teaching and learning. Overall college students preferred and perceived seeking help from electronic means as more effective than in person or by telephone. Additionally, students enrolled in distance and distributed learning classes preferred seeking help from formal sources more frequently than students enrolled in more traditionally structured classes. These students also reported that they felt less threatened in seeking help electronically from formal sources rather than in person. Consistent with Keefer and Karabenick's (1998) conclusions, the findings of the present study may imply that web enhanced and distance learning environments, more than traditional learning environments, facilitate help seeking because of reduced threat and effort, higher quality, anonymity, convenience, and easing of temporal demands (Keefer & Karabenick, 1998). Therefore, instructors of conventional courses should incorporate electronic tools and particularly e-mail in their teaching to promote student help seeking in their classes.

6. Limitations and recommendations for future research

Several limitations of this research study need to be acknowledged. First, differences among the instructors teaching the courses, the level of instruction, how the courses were structured, and activities used in these courses (e.g., having systematic study groups), may have influenced the students' levels of help seeking. Additionally, certain courses depending on the content may have generated more help seeking than others.

Future studies should use experimental designs, and perhaps longitudinal designs, to determine how classroom structures affect students' help seeking behaviors in distributed and Web-based distance learning environments. Second, data collected in this study were self-reported. Additional data collected using observations, and/or diaries may provide useful information about the process of help seeking in these learning environments. Finally, instructor perceptions, ratings and records of student help seeking behaviors may provide a deeper understanding of student help seeking behavior, including a cross-validation of results.

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