RESEARCH

Academic Help-Seeking Behavior Among Student Pharmacists

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Objectives. To identify factors associated with academic help-seeking behavior among student pharmacists at a public university.

Methods. Semi-structured focus group interviews were conducted to explore in depth perceptions of facilitators of and barriers to the help-seeking behavior and academic achievement of student pharmacists who had received a D or F grade in any year. A 4-part survey instrument was developed and administered to all student pharmacists and included sections for (1) attitudes and academic help-seeking behavior, (2) health status, (3) demographics, and (4) open comments. A structural equation modeling approach was used to assess relationships among domains of interest.

Results. Three student focus groups noted that helpfulness of faculty members and school administrators were 2 prominent facilitators of help-seeking behavior and academic achievement. Diminished quality of life caused by stress and depression was the primary barrier to help-seeking and achievement. Three hundred four (68.6%) student pharmacists completed the survey instrument. Academic help-seeking behavior was influenced mostly by perceived academic competence and perceived faculty helpfulness. In contrast, ambivalence and perception of help-seeking as threatening were 2 factors that were negatively associated with academic help-seeking behavior.

Conclusions. Academic help-seeking behavior was positively related to greater perceived academic competence and positive relationships among student pharmacists and faculty members.

Keywords: help-seeking behavior, academic competence, ego orientation, student pharmacists, student affairs

INTRODUCTION

The Accreditation Council for Pharmacy Education (ACPE) mandates that US pharmacy institutions have an academic dismissal rate of less than 6%.¹ Rigorous accreditation standards are in place to ensure a learning environment that provides students ample opportunity to master the coursework.² Despite a variety of admission criteria, however, not all students enrolled in pharmacy programs successfully complete the curricula.

Predictors of academic success in pharmacy school have been studied extensively. Preadmission criteria (grade point average [GPA], Pharmacy College Admission Test [PCAT], American College Testing [ACT], previous coursework, etc) and demographics have been explored in hopes of developing predictive models for

academic success.³⁻¹⁰ These predictors aid in admission decisions but may have limited utility in predicting student engagement with faculty members, peers, and the curriculum. Academic performance is influenced by a student's skills, attitudes, and behaviors such as self-perceived academic competency, self-driven regulation of learning, self-test directed, ambivalence, ego-orientation, and help-seeking behavior.¹¹⁻¹⁶ Although previously viewed as immature and incompetent,¹⁷ academic help-seeking behavior is now shown to be positively associated with academic success.^{18,19} Although research demonstrates that the majority of college students do not seek formal help (ie, assistance from instructors),²⁰ the reasons why are unclear. A better understanding of facilitators of and barriers to academic help-seeking behavior may prove helpful to institutions striving to enhance their students' academic performance.

Academic help-seeking behavior is a complex phenomenon that depends on students' perceptions and beliefs, social norms, goal structure of a classroom, and teacher's instructional approaches, openness, and flexibility.^{17,18} Concepts about academic help-seeking behavior

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and related domains are briefly described to provide the foundation for the conceptual framework used in this study. Ames and Lau define help-seeking as “an achievement behavior involving the search for and employment of a strategy to obtain success”²¹ This behavior helps students deal with complex concepts that they may not fully comprehend on their own. Academic help-seeking behavior is associated with motivation, ego-achievement goals, classroom norms, and characteristics of helpers.²²⁻²⁴ However, students who need academic help do not always seek it because doing so may be negatively viewed as an admission of their inability to succeed without support.^{12,16,25} Moreover, the student’s view of self-preservation may lead to avoidance of help-seeking if it is perceived as an admission of failure to complete the task.¹² Additional barriers to help-seeking include an inability to perceive or admit the need for help; an inability to act on a determined need, attitudes, and beliefs concerning the help; or the perception that the help would be of no benefit.^{25,26}

Perceived academic competence is defined as positive feelings about one’s ability to be successful academically. Perceived academic competence strongly predicts academic achievement.^{12,27-30} Students with strong perceived academic competence demonstrate greater effort in accomplishing tasks, undertake more strenuous tasks, persevere through difficulties, and develop learning strategies and goals closer to a mastery level. They also possess higher academic goals and display less anxiety compared with students with lower perceived academic competence.³¹ Students with strong perceived academic competence are less likely to interpret their academic help-seeking behavior as lack of ability and therefore tend to seek help more frequently.^{32,33}

Academic help-seeking behavior is also largely influenced by the perceived threat to one’s self-esteem or ego orientation.^{20,34} Ego-orientation is related to performance goals and perceived ability relative to that of others. Ego orientation can be categorized as either self-defeating or self-enhancing.^{14,35,36} Self-defeating ego orientation refers to performance avoidance goals that result in negative motivation to seek help. Students with strong self-defeating ego orientation tend to avoid the appearance that they lack ability relative to their peers. In contrast, students with strong self-enhancing ego orientation (performance approach goals) seek to outperform others.³⁷ Perceived academic competence is negatively related to self-defeating ego orientation and positively related to self-enhancing ego orientation.^{14,16} Self-defeating and self-enhancing ego orientations are both directly related to negative perceptions of help-seeking behavior.¹⁶

Ambivalence is one’s feeling of doubt in the chosen career or educational path and uncertainty toward one’s studies.¹³ Being ambivalent may increase the negative perceptions of help-seeking behavior and/or decrease the likelihood of asking for help. Students who are unsure about their career goals might not perform well relative to others.

Class structures that emphasize grades and competition among students tend to discourage academic help-seeking.³⁸ Teacher-student interactions, student attitudes, and beliefs regarding availability of help also impact academic performance.³⁹ Positive teacher qualities such as warmth, caring, and availability also influence students’ help-seeking behavior.⁴⁰ Communicating student expectations, possessing a positive approach, and nurturing those who seek help all encourage students to achieve academically.¹⁹

This study explored factors associated with academic help-seeking behavior in student pharmacists using the following research questions: (1) Is perceived academic competence directly related to academic help-seeking behavior? (2) Is perceived academic competence indirectly related to academic help-seeking behavior through several mediators (ambivalence, ego-orientation, perception of faculty helpfulness, and perception of help-seeking as threatening)? (3) Do ambivalence and ego orientation (self-defeating and self-enhancing) decrease help-seeking behavior? (4) Do ambivalence and ego orientation (self-defeating and self-enhancing) increase perceptions of help-seeking as threatening? (4) Do demographics such as age, gender, or GPA impact help-seeking behavior?

METHODS

This project was a cross-sectional, observational study in student pharmacists age 18 or older at a public college of pharmacy located on the main campus of an academic health sciences center. The mixed-method approach (both qualitative and quantitative) was used to observe and explore attitudes toward academic help-seeking behavior.⁴¹ The qualitative study phase (phase 1) was conducted using semistructured focus group interviews to gather qualitative information from students regarding attitudes and beliefs toward their studies. The information from phase 1 was used to develop a survey instrument for use in the quantitative study phase (phase 2). This study was approved by the university institutional review board.

An invitation letter was e-mailed to all student pharmacists asking for their participation in the qualitative study (phase 1). The letter stated the scope of the study, clearly assured that participation in the study was

completely voluntary, and specified that only those who had earned a D or F in the professional curriculum were eligible to participate. The student pharmacists who met the inclusion criteria and agreed to participate in the focus groups discussed barriers to and positive factors that contributed to their academic progress in pharmacy school as well as factors that influenced their help-seeking behavior. A standardized discussion guide, developed by the research team to improve reliability and validity of the qualitative information, included 7 themes: (1) perceived facilitators in and barriers to the PharmD education and student progression in the program, (2) perceived facilitators in and barriers to asking for academic help, (3) interactions with faculty and school administrators, (4) perceived benefits of school environment and resources that contributed to learning, (5) quality of life, (6) stress and coping mechanisms, and (7) attitudes toward the college. Students were also asked to provide suggestions for overcoming barriers to student progression for the college at the end of the survey in an open-ended format. Each focus group was an open framework that allowed a focused, conversational exchange of ideas. In order to encourage this open dialog, a neutral experienced moderator (ie, neither affiliated with the pharmacy college or school nor a member of the research team) conducted the focus group sessions. The moderator fully informed participants about the research study at the beginning of the discussion, and each was provided a pseudonym to protect his/her identity in the focus group session. The discussion moderator assured participants that they could decline to answer any question. The moderator's responsibilities also included providing a written summary of each session to the research team. With participants' permission, all focus groups were audiorecorded. The investigators provided two \$50 gift cards to be awarded to 2 participants randomly selected from those who opted in for this drawing at the end of phase 1.

The phase 2 quantitative survey instrument was distributed to all student pharmacists (P1–P4) at the college. The research project was announced at the end of each pharmacy class at the conclusion of the spring semester. The study information sheet, attached to a cover letter on the survey instrument, indicated that participation was strictly voluntary, the study was anonymous, and no personal identification was required. The inclusion criteria required that subjects be at least 18 years old and actively enrolled in the PharmD program. Participants dropped completed survey instruments in a secure, discreet drop-box placed at a central location. The study allowed subjects to opt into a raffle drawing for 1 of 6 \$25 gift cards to be awarded to 6 randomly selected participants at the end of the study period. The winning raffle numbers were

announced by means of college of pharmacy e-mails to all student pharmacists.

The paper-and-pencil, self-administered survey instrument was divided into 4 parts: (1) attitudes and academic help-seeking behavior, (2) health status, (3) demographics (age, gender, race/ethnicity, current GPA, year in school, and history of a D or F in any pharmacy school year), and (4) an open comment section on school facilities, curriculum, and other areas. The research team discussed the summarized reports of the focus groups and then developed or selected existing items from the literature. Items were modified and revised for relevance to student pharmacists, as appropriate. The attitudes and academic help-seeking behavior section consisted of 38 questions separated into 9 domains: (1) perception of academic help-seeking as threatening,¹⁶ (2) perceptions of academic help-seeking behavior,¹⁶ (3) scale for lack of regulation,¹³ (4) scale for self-test directed,¹³ (5) ambivalence scale,¹³ (6) self-enhancing ego orientation,¹⁶ (7) self-defeating ego orientation,¹⁶ (8) perceived academic competence,^{12, 15} and (9) perceived faculty helpfulness, which had been adapted from teacher evaluation forms from various sources (ie, different teaching evaluation forms that are available online, including our college teaching evaluation). Two questions regarding career and school satisfaction⁴² were added to the end of the survey. Descriptions of the domains are presented in Appendix 1. A 5-item Likert response scale was used to determine the level of agreement with each statement (1=disagree entirely; 2=disagree for the most part; 3=undecided or do not know; 4=agree for the most part; 5=agree entirely). The scores for each domain were summed for descriptive information. Higher summary scores represented stronger traits. The Short-Form 12 (SF-12)⁴³ was used to obtain the health status of participants but the results are not included in this analysis.

The phase 1 focus groups were audiorecorded and subsequently transcribed verbatim. The transcripts were de-identified and entered into NVivo, version 9 (QSR International, Burlington, MA). The coding scheme was developed from contents in the semi-interview guide, which has a series of open-ended questions to guide the discussion. Two investigators independently identified the theme codes and new themes raised by focus groups and resolved any discrepancies in their findings. They then compared the themes to identify similarities, differences, and relationships. Relevant themes were identified and the literature was searched for existing questionnaires regarding these themes. Details extracted from this phase were intended to provide support information for the purpose of internal improvement at the college. The themes

that emerged in phase 1 were then combined with the results from the quantitative phase.⁴¹

To ensure content validity in phase 2, selection and modification of survey items were performed by the research team in a group session. Participants' descriptive statistics were provided in addition to domain summary scores. A conceptual model was modified from the literature as previously described (Figure 1).^{14,16} The scales for lack of regulation, self-test directed, career dissatisfaction, and school dissatisfaction were not included in our adapted conceptual model as they were used to confirm content validity of other scales^{12,14-16}

A Cronbach alpha coefficient of ≥ 0.70 was used to indicate good internal consistency of the survey instrument. Multivariate regression analysis using structural equation modeling (SEM) approach was used to determine if each question in the same domain significantly contributed to the domain (factor loading should be greater than 0.35) and assess relationships among domains in the conceptual model. The AMOS, version 18.0 (Amos Development Corporation, Crawfordville, FL), was used to perform the multivariate regression analysis. Fit indexes for the measurement model included the Steiger-Lind root mean square error of approximation

(RMSEA) of ≤ 0.06 , the Bentler comparative fit index (CFI) of ≥ 0.95 , and the model chi-square ratio ($\chi^2/\text{degree of freedom}$) < 2.0 to represent good fit of the model.⁴⁴ Age, gender, and current self-reported GPA were included to test the associations with academic help-seeking behavior. Significance in this study was set at $p < 0.05$. All coefficients were reported as standardized regression coefficients, including direct and total effects from the AMOS software. A total effect was calculated by summing all direct and indirect effects from an independent variable to a dependent variable. For example, the total effect of the perceived academic competence on the academic help-seeking behavior was calculated by summing 1 direct effect and 10 indirect effects through 5 mediators (ambivalence, self-defeating ego orientation, self-enhancing ego orientation, perception of faculty helpfulness, and perception of help-seeking as threatening).

RESULTS

Phase 1 included only 6 student pharmacists (1 male and 5 female) who met the inclusion criteria and contacted the research team about participating. Three focus group interviews were conducted with 2 students in each focus group. There was at least 1 student from each year of the

Figure 1. Standardized regression coefficients (direct effects) for the conceptual model of relations between academic competence, ambivalence, self-defeating ego orientation, self-enhancing ego orientation, perceived faculty helpfulness, help-seeking as threatening, help-seeking behavior, age, gender, and grade point average (GPA). (Root mean square error of approximation=0.045, Bentler comparative fit index=0.94, model chi-square ratio=1.6)

^a $p < 0.001$

^b $p < 0.01$

^c $p < 0.05$

curriculum who agreed to participate in this phase. Each focus group interview session lasted approximately 70 minutes. In addition to the semistructured guide topics, participants discussed various topics, including course/instructor evaluations, classroom environment, and course materials. Participants reported that the tutoring and mentoring system offered by the college was helpful. Some participants were concerned that online course/instructor evaluations may not be completely anonymous; consequently, they did not feel comfortable providing honest evaluations. Two participants reported that they had been distracted during a class period by other students who used text messaging and conducted computer searches on material that was not related to the course material. Some suggested that the college should have a test examination question bank for student practice.

In phase 2, 304 out of 443 students (68.6% response rate) completed the survey instrument. Five respondents were omitted from the final analysis because they completed less than 50% of the survey instrument. The participants' demographics are presented in Table 1. The average age of the 299 participants was 24.9 ± 3.4 (mean $\pm$ SD) years. Most participants were female (64.5%) and Caucasian (92.4%). The highest and the lowest response rates were from the P1 class ($n=91$, response rate=75.2%) and the P3 class ($n=55$, response rate = 51.9%). Sixty-eight students (23.7%) reported that they had received a D or

F in previous year(s). The self-reported average GPA was 3.1 ± 0.5 .

The domain summary and average domain scores are reported in Table 2. Reliability coefficients of almost all domains exceeded 0.70 except for the self-perception of help-seeking behavior (alpha of 0.66). The participants were satisfied with their chosen career (dissatisfaction score = 2.1 ± 1.1 , with the lower score representing higher satisfaction) and the chosen school (dissatisfaction score = 1.8 ± 1.0 , with the lower score representing higher satisfaction). The career and school dissatisfaction were moderately correlated (Pearson correlation coefficient [ρ]=0.42). Career dissatisfaction was highly associated with the ambivalence scale ($\rho = 0.60$). Both career and school dissatisfaction were negatively associated with the perceived faculty helpfulness scale ($\rho = -0.32$ and $\rho = -0.44$, respectively). All question items significantly contributed to the hypothesized domain, with factor loadings of 0.35 or greater. Question 16 was dropped from the ambivalence scale because it was highly correlated with the academic competence domain when the measurement model was tested. Question 23 was deleted from the self-enhancing ego-orientation domain because it had low item-to-total correlation.

The measurement model provided an acceptable fit with RMSEA of 0.045 (90% confidence interval of 0.039-0.052), the model chi-square ratio of 1.6, and CFI of 0.94. The direct standardized regression estimates in Figure 1 show that academic competence positively influenced the self-enhancing ego orientation ($p<0.001$) and the perceived faculty helpfulness ($p<0.001$), whereas it negatively associated with the ambivalence scale ($p<0.001$) and the self-defeating ego orientation ($p=0.003$). Help-seeking behavior increased when the perceived faculty helpfulness increased ($p=0.007$). On the contrary, it was negatively impacted by the ambivalence scale ($p=0.002$), the perception of help-seeking as threatening ($p=0.007$), and self-defeating ego orientation ($p=0.030$). Students who had relatively low GPAs ($p=0.019$) and were female ($p=0.008$) were more likely to seek academic help. Age was not significantly associated with seeking help in this sample. Although the positive direct association of perceived academic competence on academic help-seeking behavior did not reach significance ($p=0.074$), its standardized total effect (combined direct and indirect effects) was the highest (0.479) on academic help-seeking behavior. The perception of faculty helpfulness also had a high standardized total effect (0.460) on academic help-seeking behavior. On the contrary, ambivalence and the perception of help-seeking as threatening had negatively standardized total effects on academic help-seeking behavior (total effects of -0.348 and -0.320).

Table 1. Demographics and Characteristics of Pharmacy Students Who Participated in Focus Groups on Academic Help-Seeking Behavior (N=299)

Characteristic	Value
Age (year), mean (SD) [range]	24.9 (3.4) [19-44]
Female, No. (%)	185 (64.5)
Race/ethnicity, No. (%)	
Caucasian	266 (92.4)
African-American	10 (3.5)
Hispanic	3 (1.0)
Asian	7 (2.4)
Other	2 (0.7)
School year, No. (%)	
P1	91 (30.4)
P2	72 (24.1)
P3	55 (18.4)
P4	81 (27.1)
Reported current GPA, mean (SD) [range]	3.1 (0.5) [2-4]
Received grade of D or F in previous year(s) in pharmacy school, No. (%)	68 (23.7)

Abbreviation: GPA=grade point average

Table 2. Domain Scores From a Survey of Pharmacy Students Who Participated in a Study of Academic Help-Seeking Behavior (N=299)

Domains	No. of Items	Total Score, ^a Mean (SD)	Score Average, ^b Mean (SD)	Reliability (α)	Score Range	Higher Scores Indicate:
Perception of help-seeking as threatening	3	6.6 (2.9)	2.2 (1.00)	0.84	3-15	Higher perception of help-seeking as a threat
Self-perception of help-seeking behavior ^c	3	8.9 (1.6)	2.9 (0.5)	0.66	3-15	Greater likelihood a student would seek academic help
Scale for lack of regulation	4	10.6 (3.5)	2.6 (0.9)	0.78	4-20	Higher level of confusion about how he/she should study
Scale for self-test directed	4	16.9 (2.9)	4.2 (0.7)	0.84	4-20	Higher level of willingness to test his/her own study abilities and to prove herself or himself to others
Ambivalence scale ^d	3	6.3 (2.9)	2.1 (1.0)	0.85	3-15	Higher level of doubtful, uncertain attitude toward the study, own capabilities, and pharmacy career
Self-enhancing ego orientation ^c	3	9.4 (2.8)	3.1 (0.9)	0.78	3-15	Higher level of desire to be judged as able
Self-defeating ego orientation	4	12.9 (4.1)	3.2 (1.0)	0.86	4-20	Higher level of concern about not being perceived as the poorest student, not looking stupid, and not being negatively perceived by others
Perception of academic competence	5	19.6 (3.3)	3.9 (0.7)	0.82	5-25	Higher level of confidence in his/her ability to cope with the academic course load and high level of understanding what was taught in the course
Perception of professor helpfulness	6	22.2 (4.3)	3.7 (0.7)	0.91	6-30	Higher level of perceived professor helpfulness
Career dissatisfaction	1	N/A	2.1 (1.1)	N/A		
School dissatisfaction	1	N/A	1.8 (1.0)	N/A		

^a A total score is calculated by tallying all the questions in a domain (1=disagree entirely; 2=disagree for the most part; 3=undecided or do not know; 4=agree for the most part; 5=agree entirely). For example, the perception of help-seeking as threatening has 3 questions so the total score can range from 3 to 15.

^b A score average is calculated by average all the questions in a domain or by dividing a total score with the number of questions in that domain.

^c Question 6 was recoded to make the direction of the response correspond with the other 2 questions in the domain.

^d Question 16 was dropped from the scale because it was highly correlated with the academic competence domain.

^e Question 23 was dropped from the scale because it had low item-to-total correlation.

DISCUSSION

Academic help-seeking behavior is an important self-regulatory strategy highly associated with academic success.^{18,45} Given that many factors influence academic help-seeking behavior, gaining a fuller understanding of the facilitators of and barriers to such behavior among student pharmacists experiencing difficulty with coursework may help faculty members and administrators respond more quickly to distressed students. Moreover, such an understanding may help improve student achievement, promote professional progression through the curriculum, and better facilitate degree attainment. This study shows that student academic help-seeking behavior

is directly associated with the perception of faculty helpfulness and indirectly with the perception of academic competence. In contrast, the perception of help-seeking as threatening, ambivalence, and self-defeating ego orientation hinder help-seeking behavior in this population.

Thus, the classroom environment and teacher-student interactions can foster academic help-seeking behavior and successful academic performance. Conversely, poorly handled teacher-student interactions can deter the student from reaching an acceptable degree of achievement. Other researchers have demonstrated the importance of teacher-student interactions in determining whether students complete a curriculum.⁴⁶ Though student pharmacists

may initially be excited by their acceptance into a PharmD program, this enthusiasm may quickly subside, leading to a decreased motivation for learning in the first academic year.⁴⁷ Students may become preoccupied with social comparisons and societal normative standards. Therefore, academic help-seeking behavior could be influenced by ego-orientation. Students who are trying to avoid being negatively perceived by other students (self-defeating ego orientation) are less likely to seek help and more likely to perceive help-seeking as threatening. While this result is similar to that of Skaalvik and Skaalvik, it was less striking in our population.¹⁶ This difference may be attributable to student pharmacists as a group having a more similar educational background and having at least 2 years of education prior to entering pharmacy school. In our study, self-enhancing ego orientation did not influence either negative or positive help-seeking behavior.

In our sample, student pharmacists with higher GPAs are less likely to seek academic help. Our results may seem paradoxical, given that student pharmacists with high self-defeating ego-orientation were less likely to seek academic help. However in our sample, there was no significant correlation between GPA and the self-defeating ego orientation ($p=0.53$). In our conceptual model, we focused on discovering what factors might be associated with academic help-seeking behavior. While GPA was one of the factors we explored, we assumed that GPA would be strongly associated with perceived academic competence; thus, as expected, the correlation was high ($p<0.0001$). Perceived faculty helpfulness minimizes students' perception of help-seeking as threatening and increases help-seeking behavior. Respect, accessibility, approachability, and friendly demeanor were key elements associated with perceived faculty "helpfulness" in this study. The results of our study can inform institutions that are not meeting their student progression goals by helping faculty members and administrators develop strategies to encourage academic help-seeking behavior. Our data demonstrate that encouraging academic help-seeking behavior in student pharmacists requires enhancing perceived academic competence, improving relationships among students and faculty members, decreasing students' ambivalence by engaging them more directly in pharmacy activities and the curriculum, and encouraging students to think about their career goals.

This study has several strengths. It had a strong analytical approach using SEM to measure concepts (domains or latent variables) instead of summary scores, it used more than 1 question to determine each concept, and the survey instrument demonstrated good psychometric properties (validity and reliability) in this sample.

Moreover, the study measured direct and total effect (direct plus indirect effects) of interested factors on academic help-seeking behavior to provide a complete picture of how each factor is associated with the target behavior. Our methods were also strengthened by using information gathered during the qualitative phase to identify survey items for the qualitative phase. The focus groups' discussion of perceived faculty helpfulness leading to academic help-seeking behavior was supported by the survey results.

Our study had some limitations. It was conducted in a single public college of pharmacy, which may limit generalizability to all student pharmacists in different settings and may not be generalizable to different degree programs. However, our methods could be used to address similar issues at other institutions or in other professional schools. Because longitudinal study design is warranted to identify cause-and-effect results, the cross-sectional study design used in our study cannot measure a direct cause-and-effect relationship; thus, we can provide only information regarding how each factor related to academic help-seeking behavior. We believe the results of our study may provide some support information to pharmacy colleges and schools desiring to increase their students' academic help-seeking behavior. Additionally, we cannot eliminate some response biases such as "social desirability," "mental set," and "order of question items,"⁴⁸ as well as prior experience of academic help-seeking behavior. Finally, responses may have been affected by the curriculum year of each student at the time of the study. Future research is needed to test this conceptual model in different types of pharmacy colleges and schools, as multisite research may be best approach to confirming the findings.

CONCLUSIONS

Seeking academic help is a critical behavior that will aid students in the achievement of their goals. Further, help-seeking as a strategic resource, which students should use and faculty members should support, requires conditions that maximize its benefits. In this study, academic help-seeking behavior was strongly related to students' perception of academic competence and faculty helpfulness.

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Appendix 1. Domain Descriptions and Interpretations of the Survey

Domains	Questionnaire Items and Interpretations
Perception of help-seeking as threatening	<p><i>"I worry that other students may think that I am stupid if I ask for help."</i></p> <p><i>"If I ask for help, a teacher will think I am stupid."</i></p> <p><i>"If I ask a teacher for help, he or she will lose faith in me."</i></p> <p>The higher score represents a greater perception of help-seeking as a threat.</p>
Self-perception of help-seeking behavior	<p><i>"If I do not understand materials, I ask a teacher to explain it to me."</i></p> <p><i>"If I struggle with trying to understand class materials, I ask someone for help in order to understand the materials."</i></p> <p><i>"I do not ask for help even when I need it."</i></p> <p>The higher score represents a greater likelihood that a student would seek academic help.</p>
Scale lack of regulation	<p><i>"I realize that it is not clear to me what I have to remember and what I do not have to remember."</i></p> <p><i>"I notice that I have trouble processing a large amount of subject matter."</i></p> <p><i>"I notice that it is difficult for me to determine whether I have mastered the subject matter sufficiently."</i></p> <p><i>"I realize that the objectives of the course are too general to offer any support for me."</i></p> <p>The higher score represents a higher level of confusion about how he/she should study.</p>
Scale self-test directed	<p><i>"I want to prove to myself that I am capable of doing coursework in pharmacy."</i></p> <p><i>"I want to show others that I am capable of successfully progressing in a pharmacy program."</i></p> <p><i>"I view the choice I have made to enroll in pharmacy school as a challenge."</i></p> <p><i>"I want to discover my own abilities, the things I am capable and incapable of."</i></p> <p>The higher score represents a higher level of willingness to test his/her own study abilities and to prove himself/herself to others.</p>
Ambivalence scale	<p><i>"I doubt whether pharmacy is the right career for me."</i></p> <p><i>"I have little confidence in my study capacities."</i></p> <p><i>"I wonder whether these studies are worth all the effort."</i></p> <p><i>"I doubt whether pharmacy education is the right type of education for me."</i></p> <p><i>"I am afraid these studies are too demanding for me."</i></p> <p>The higher score represents a higher level of doubtful or uncertain attitude toward the value of pharmacy studies, own capabilities, and pharmacy career.</p>
Self-enhancing ego orientation	<p><i>"I feel successful in my pharmacy classes when I know my work is better than other students."</i></p> <p><i>"In my pharmacy classes it is important for me to manage tasks that other students do not manage."</i></p> <p><i>"I always try to do better than the other students in my pharmacy classes."</i></p> <p><i>"I answer questions in my pharmacy classes in order to show that I am more able than the other students."</i></p> <p>The higher score represents a higher level of desire to be judged as able. Students with high scores are more occupied with being best or outperforming others.</p>
Self-defeating ego orientation	<p><i>"When I answer questions in my pharmacy classes I am concerned about how I am perceived by the other students."</i></p> <p><i>"In my pharmacy classes I am concerned not to make a fool of myself."</i></p> <p><i>"The worst thing about making mistakes in a pharmacy class is that other students may notice."</i></p> <p><i>"In my pharmacy classes it is important for me to avoid looking stupid."</i></p> <p>The higher score represents a higher level of concern about not being poorest, looking stupid, and being negatively perceived by others.</p>
Academic competence	<p><i>"I am confident I will pass all examinations this year."</i></p> <p><i>"I am confident I can make realistic study plans."</i></p> <p><i>"I am able to manage the academic course load in the pharmacy school so far."</i></p> <p><i>"I can easily understand course material taught in the pharmacy school."</i></p> <p><i>"I feel good about how I do in pharmacy school."</i></p> <p>The higher score represents a higher level of confidence in his/her ability to cope with the academic course load and high level of understanding what was taught in the course.</p>

(Continued)

Appendix 1. (Continued)

Domains	Questionnaire Items and Interpretations
Perceived faculty helpfulness	<p><i>"Professors are helpful when I ask for academic help."</i></p> <p><i>"Professors treat me with respect when I ask for help."</i></p> <p><i>"Professors are approachable and friendly."</i></p> <p><i>"Professors are sincere and honest."</i></p> <p><i>"Professor seems to have a genuine interest in and concern for students."</i></p> <p><i>"Professors are accessible to students outside of class."</i></p> <p>The higher score represents a higher level of perceived faculty helpfulness.</p>
Career dissatisfaction	<p><i>"Knowing what I know now, if I had to decide all over again whether to go to pharmacy, I would choose another field."</i></p> <p>The higher score represent a higher degree of career dissatisfaction.</p>
School dissatisfaction	<p><i>"Knowing what I know now, if I had to decide all over again whether to go to UAMS COP, I would choose another COP."</i></p> <p>The higher score represents a higher degree of school dissatisfaction.</p>

Abbreviations: UAMS=University of Arkansas for Medical Sciences; COP=college of pharmacy