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Understanding academic help-seeking among firstgeneration college students: a phenomenological approach

Li Ruihua ^[],², Norlizah Che Hassan^{3™} & Norzihani Saharuddin¹

Seeking academic help is a common practice for students to achieve academic success. Although there are some studies on academic help-seeking, current research has not fully examined this behavior from the perspective of first-generation college students. This study explores how first-generation college students perceive and engage in academic help-seeking, aiming to understand the factors that influence their attitudes and behaviors in seeking academic support. Semi-structured interviews were conducted with 20 participants, guided by the Theory of Planned Behavior. The interviews were recorded and transcribed, then analyzed using Interpretative Phenomenological Analysis. The findings are as follows: (1) Positive perception, (2) Negative perception, (3) Social Expectations and Pressures in Help-Seeking, (4) Motivators for Help-Seeking, and (5) Inhibitors for help-seeking. Most students have a favorable view of seeking help, but many associate it with self-doubt and concerns about peers' opinions. Subjective norms in help-seeking are shaped by social expectations and pressures, with key influences coming from family, teachers, and peers. Motivation to seek help affects understanding academic needs, problem-solving urgency, and confidence. However, there are inhibiting factors such as emotional barriers, perceived independence, and concerns about help effectiveness. This study provides valuable insights into the complex dynamics of academic help-seeking among first-generation college students. It highlights their positive attitudes and the multifaceted factors influencing their help-seeking behavior. The insights from this study are critical to developing targeted educational approaches and support mechanisms to assist first-generation college students in their academic endeavors more effectively.

¹ Faculty of Educational Studies, Universiti Putra Malaysia, Serdang, Selangor, Malaysia. ² Faculty of Basic Education, Putian University, Putian, Fujian, China.
³ Present address: Faculty of Educational Studies, Universiti Putra Malaysia, Serdang, Selangor, Malaysia. ^{Semanle} ilizahass2018@gmail.com

Introduction

earning is hardly ever accomplished alone. Nearly all college students require some academic help in their learning experiences. Seeking help is not a dependent behavior but rather a self-regulated strategy (Fong et al. 2023). When students enter college, they face many challenges, especially when adapting to a new learning environment. At this stage, they typically need to manage their academic work more independently (Laajala-Lozano and Jenkins, 2022; Nguyen, 2023). Although educational institutions have continuously improved support for students' intellectual development and academic transitions after high school, such as providing orientation, counseling, and learning centers, students still need to utilize these resources actively (Chen et al. 2018). Research has found that seeking help is one of the feasible channels for students to solve academic problems. (Fong et al. 2023; R. H. Li et al. 2023a).

In the ever-changing landscape of higher education, students from first-generation college families, meaning both parents have not obtained a four-year college degree-face unique challenges(Hansen-Brown et al. 2023; Qu et al. 2023). When FGCS face similar anxieties and challenges as other college students, they also must navigate the cultural, social, and academic transitions required when entering higher education institutions (Finny et al. 2022; X. J. Li et al. 2023b). At the same time, the norms of the higher education system may not align with their cultural background, which could hinder their ability to seek help in academic, financial, and psychological aspects. FGCS come from diverse cultural backgrounds, which may lead to difficulties in adapting to the higher education environment due to cultural differences (Chang et al. 2020; Phillips et al. 2020). Their parents or family members do not have a college education, which limits their ability to provide knowledge and guidance related to the college experience, potentially causing first-generation students to feel unsettled in both academic and personal aspects (LeBouef and Dworkin, 2021). Although academic support is crucial for every college student, it may be of higher importance for firstgeneration college students, as they may adopt unique attitudes and behaviors when seeking support in the college environment (Chang et al. 2020; White and Canning, 2023). In this current research, we utilize a Theory of Planned Behavior (TPB) theory to examine first-generation college students' nuanced cognitions, processes, and behaviors as they seek academic help.

Related literature review

Academic help-seeking behavior. For decades, researchers in the fields of education and psychology have conducted multifaceted studies on help-seeking behavior. Help-seeking behavior spans various domains, such as mental health and psychological counseling, and the research subjects range from elementary and middle school to high school and adult education. The focus of this study is on academic help-seeking among college students, i.e., the behavior of college students who realize they cannot independently solve academic problems and, therefore, decide to seek help from external sources (Ryan et al. 1998). Academic help-seeking (AHS) is a self-regulated behavioral strategy that encompasses autonomous control and social interaction to obtain assistance from others and is aimed at supporting learning and problem-solving among college students (Karabenick, 2003; Karabenick and Knapp, 1988). When learners become aware of difficulties in their understanding, they take a series of deliberate actions, including selecting from various possible sources and then seeking help to address these issues (Broadbent and Lodge, 2021). The behavior and attitude of seeking academic help have emotional and affective components, which may manifest during the anticipated stage of self-regulated learning and could also play

a role in the final decision of whether to seek help from others(Parker et al. 2019). Furthermore, there is an association between academic help-seeking behavior and other socio-psychological factors, making it worthy of our attention (Bornschlegl et al. 2020; Chen et al. 2018). On the other hand, some students may have a positive view of seeking help because they believe it is a valuable strategy for promoting learning. This attitude reflects their belief that seeking help contributes to improving academic performance, making them more inclined to seek support (Adams et al. 2023; Al-Rashidi and Abdel-Al Ibrahim, 2023). In summary, students' emotions and attitudes have a significant impact on whether they seek academic help, including self-esteem, perceived competence, and their perceptions of the threats and benefits of seeking help. These factors together shape students' help-seeking behavior and attitudes.

Interpersonal factors and social interactions have also been found to influence students' decisions to ask for help. Factors such as perceived social support (Martínez-López et al. 2023), sense of belonging to the class group (Won et al. 2021), or satisfaction with friendship (Brouwer and Engels, 2022; Shin and Park, 2023) can determine academic help-seeking behaviors. The role of professors and lecturers in the classroom environment has been confirmed to have a significant impact on whether students are willing to seek help, as indicated by existing research. Studies suggest that three aspects of the classroom environmentclassroom norms, goal structures, and social atmosphere-may influence adolescents' help-seeking behavior (Shin and Park, 2023). It is important to note that students' help-seeking behavior may encompass two extremes: avoiding seeking help and perceiving help-seeking as a threat, with avoiding seeking help typically harming academic performance (Önder and Akçapinar, 2023). Meanwhile, Ryan and Shin (2011) found that students' help-seeking avoidant behavior generally negatively influences their academic achievement.

First-generation college students' academic help-seeking behavior. Despite the existence of various definitions, as per the US Department of Education, first-generation college students are those currently attending college and whose parents have not obtained a 4-year degree. In comparison to their peers with college-educated parents, FGCS encounter more obstacles (Toutkoushian et al. 2018). As of 2022, Chinese universities are undergoing significant expansion, with 10.92 million undergraduate students enrolled and a total of 46.55 million students in higher education. This represents a thirteenfold increase since 1998 (China, 2022). Under this trend, the proportion of non-firstgeneration college students is gradually increasing in Chinese universities, particularly in domestic research-oriented institutions, where the number of non-first-generation college students is catching up with that of FGCS (Fang and Lu, 2022). These students, neither of whose parents earned a four-year college degree, have limited or significant financial debt due to limited financial resources, poor academic preparation (Thompson, 2021), poor quality interactions with faculty (Ives and Castillo-Montoya, 2020; Ro et al. 2021), and concerns about campus belonging and adjustment (Azpeitia et al. 2023; Cheong et al. 2021). According to Cheong et al. (2021), FGCS have lower grade point averages and lower degree completion rates than continue generation college students (CGCS). The difference in helpseeking behavior may contribute to the achievement gap between FGCS and CGCS. Seeking help from instructors, teaching assistants, peers, or other sources is strongly associated with academic performance, engagement, anxiety, and overall academic achievement (Chang et al. 2020; Parnes et al. 2020; Richards, 2022). Qualitative research suggests FGCS are less likely to seek



Fig. 1 Theory of planned behavior (Ajzen, 1991).

help when they need it, and when they do seek help, they are more likely to engage in passive help-seeking (e.g., waiting quietly for assistance) as opposed to active help-seeking (e.g., promptly requesting assistance through multiple methods), compared to CGCS (White and Canning, 2023).

This study focuses on first-generation college students (FGCS) in China because their help-seeking behavior is shaped by the country's unique cultural and educational context. Chinese culture, as a collectivist society, places a strong emphasis on family loyalty and maintaining social harmony, which influences students' perceptions of seeking academic help (Koo, 2021). For many students, seeking help may be seen as an admission of personal failure, which conflicts with the cultural expectation in China to 'save face'-that is, to maintain one's dignity and avoid public embarrassment by not exposing personal challenges or burdens to others. This cultural dynamic is particularly significant for FGCS, as their families lack higher education experience, leading these students to feel additional pressure to succeed academically. This cultural dynamic is particularly significant for FGCS, as their families lack higher education experience, leading these students to feel additional pressure to succeed academically (Fan and Nkansah, 2024). Furthermore, the highly competitive nature of China's education system exacerbates these pressures, making Chinese FGCS a crucial group to study for academic help-seeking behavior (Kang and Mok, 2024; Lim et al. 2024).

Research framework. There are different theories to study academic help-seeking behavior, such as self-regulated learning (SLR) (Broadbent and Howe, 2023; Davison et al. 2023), Helpseeking interaction model (Davison et al. 2023), tension system (Peeters et al. 2020), Community cultural wealth framework (Payne et al. 2021), we utilized the Theory of Planned Behavior (TPB) (Fig. 1) as a framework to understand first-generation college students' academic help-seeking behavior. The theory of planned behavior, developed by Ajzen (1991), is a theory meant to explain human behavior through specific contexts. According to the Theory of Planned Behavior, an individual's background, including personality, age, gender, nationality, cultural background, cultural adaptability, shame, and socioeconomic status, can influence their behavioral beliefs. The core factor of this theory is behavioral intention, which is the individual's motivation behind their behavior. Intent can be explained as the desire of an individual to learn a certain skill or try new concepts, as well as the extent to which they are inclined to engage in a particular behavior, which also determines whether this behavior will occur in practice (Ajzen, 1991). In this theory, three factors play a crucial role in determining an individual's intention. Firstly, attitude, or behavioral beliefs, is the individual's attitude towards a specific behavior (Ajzen, 1991, 2012). Secondly, subjective norms involve social expectations-whether an individual believes they should engage in a certain behavior. This belief is often influenced by the individual's social network, peers, colleagues, and family (Ajzen, 1991, 2012). Lastly, the third factor is "perceived behavioral control," which is related to the ease or difficulty of an individual implementing a specific behavior (Ajzen, 1991, 2012). The Theory of Planned Behavior has also been widely used in studies focusing on student behavior. Some studies on college students' social entrepreneurship intention(Chang et al. 2022; Nawi et al. 2022), Other studies have focused on specific behaviors on campus, such as food waste, walking behavior, and Anti-Littering Behavior(Ibrahim et al. 2021; Wang et al. 2023; White et al. 2022).

The Theory of Planned Behavior (TPB) provides a comprehensive framework for understanding the factors that influence students' academic help-seeking behavior (Pan and Hao, 2023; Yee and Ryan, 2023). First, TPB considers students' attitudes toward help-seeking, including their perceptions of the benefits and outcomes of help-seeking. Research has shown that these attitudes can significantly influence students' willingness to seek help, with positive attitudes encouraging such behavior and negative beliefs (e.g., viewing help-seeking as a sign of weakness) acting as a deterrent (Bornschlegl et al. 2020). Second, subjective norms play a key role, reflecting the influence of social expectations of peers, families, and educators. Research has shown that in collectivist cultures like China, where maintaining social harmony is crucial, family expectations and peer pressures can heavily influence whether students seek help or remain silent (Cao et al. 2021; Jeng, 2024). The TPB allows researchers to analyze how these social pressures affect students' perceptions of the acceptability of seeking help (Naumova, 2022; Yee and Ceballos, 2023). Finally, the TPB highlights the role of perceived behavioral control, which refers to students' confidence in their ability to seek and effectively use academic help. This includes their assessment of available resources and perceived barriers. Research applying TPB in educational settings has consistently shown that students with higher perceived behavioral control (i.e., those who believe they can easily get help) are more likely to seek help when needed (Bimerew and Arendse, 2024; Dueñas et al. 2021b). However, while TPB focuses on planned behavior, it is important to acknowledge that not all academic help-seeking is intentional or premeditated. During interviews with participants, we also observed instances of spontaneous help-seeking, where students sought assistance reactively, often due to immediate academic pressures or emotional triggers. While these behaviors do not align perfectly with TPB, they offer valuable insights into the complexity of help-seeking among students. Thus, this study primarily focuses on planned help-seeking behavior but recognizes the presence of spontaneous help-seeking as an important complementary observation. Although TPB remains central to understanding the intentional aspects of help-seeking, the inclusion of spontaneous behaviors provides a broader perspective on how students navigate academic challenges.

Rationale for the study. The current literature on academic helpseeking behavior primarily focuses on the general student population, emphasizing students' perspectives, attitudes toward seeking help, and its impact on academic performance. However, a noticeable lack of in-depth research focuses on FGCSs' helpseeking behaviors in educational contexts. Furthermore, while existing studies have addressed the challenges that FGCS face in higher education, primarily using quantitative analyses to examine their academic performance and college retention, there is a lack of research delving into their academic help-seeking behaviors. While the Theory of Planned Behavior (TPB) has been widely used in various areas of behavioral research, its application to understanding the academic help-seeking behaviors of FGCS has not been widely explored. This study aimed to investigate the perception of college students in seeking or not seeking academic help.

The following research questions guided the present study:

- What are the perceptions of first-generation college students in China regarding academic help-seeking?
- How do the opinions and behaviors of peers, family, and educational staff influence first-generation college students in China to seek academic help?
- What factors do first-generation college students in China identify as facilitators or barriers to seeking academic help?

Methodology

Research design. This study utilized the interpretative phenomenological analysis (IPA) methodology, which was developed in psychology in the mid-1990s (Smith, 1996, 2011). The exploratory and in-depth nature of the IPA methodology facilitates insight and understanding of the participants' lived experiences. This method obtains descriptions of experiences through informal one-on-one interviews with first-person narratives. The interviews are then transcribed and analyzed for themes and meanings to understand their experiences (Moustakas, 1994). As such, the researcher must be aware of their biases and preconceptions to understand, shield, and adjust them during the research process (Smith et al. 2022). This requires the researcher to approach the data with an open and inquiring mind, understanding that while the researcher's conclusions are no truer than those of the participants, the researcher's conclusions can provide insights that go beyond and overlap with the participants' claims. Given that the focus of this study was to explore the academic help-seeking behaviors of first-generation college students, we chose IPA to gain insight into individuals' behavioral experiences.

Furthermore, The COREQ checklist (Supplementary Material 1 The Consolidated Criteria for. Reporting Qualitative Studies (COREQ): 32-item checklist) was used for the report of this study (Tong et al. 2007).

Participants. Sampling for the IPA follows a purposeful process whereby a small group of participants is drawn from a specific population to understand the experiences of a particular group. They also suggested that snowballing can be an effective recruitment method when target participants are difficult to recruit. Thus, purposive sampling and snowball sampling were used in this study (Smith et al. 2022). Snowball sampling allows the recruitment process to expand efficiently by relying on existing participants to refer others with relevant characteristics. To reduce the risk of bias, we emphasized to participants the importance of referring individuals from diverse backgrounds and experiences, aiming to ensure a broader range of perspectives within the sample. Eligibility criteria for this study required participants to (1) Parents of college seniors, neither of whom had attended or graduated from college, were the first college students in their families to attend college ; (2) College seniors who grew up and lived in rural China;(3) Fourth-year college students who are praised for their academic performance ; (4) College seniors who have a GPA of no less than 3.0 and are not failing classes. The participants could then contact the researcher to participate in the study, and snowball sampling was used afterward. Twentysix people initially agreed to be interviewed, but only 20 were interviewed. Six of the respondents declined due to time constraints and concerns about answering the questions, and two who had been contacted were not interviewed because the data had reached saturation. The final sample consisted of 20 undergraduates (Female = 12, Male = 8) aged between 20 and 22 years. All participants in this study were of Han ethnicity, the predominant ethnic group in China. Table 1 shows the Characteristics of the study participants.

Data collection. A semi-structured interview schedule was developed after reviewing the literature and discussing it with FGCS students and college lecturers (Supplementary Material 2 interview guide). After obtaining ethical approval, a pilot interview was conducted. During pilot testing and actual data collection, the interview guide was modified as we learned more about the different representations of students' academic help-seeking behaviors, such as asking questions. The in-depth, semi-structured personal interviews were conducted between July 2023 and October 2023 in online meetings or on campus. The interview lasted between 30 and 70 min (Supplementary Material 3 interview details). During the interview, we followed the semi-structured interview guide (Supplementary Material 2 interview guide). In the interview process, the interviewer summarizes the

Participant	Gender	Age	Research areas	GPA	Father's education	Mother's education
1	Male	21	Social Sciences	3	Middle School	High School
2	Male	22	Social Sciences	3.6	Middle School	Middle School
3	Female	22	Social Sciences	3.6	High School	Middle School
4	Female	22	Social Sciences	3	High School	High School
5	Male	22	Social Sciences	3.8	Elementary School	Middle School
6	Female	22	Humanities	4	No Formal Education	No Formal Education
7	Female	22	Social Sciences	3.2	High School	Middle School
8	Male	22	Engineering and Technology	3.5	Middle School	Middle School
9	Female	22	Engineering and Technology	3	Middle School	Middle School
10	Female	22	Social Sciences	3	Middle School	Elementary School
11	Male	23	Engineering and Technology	3.6	High School	High School
12	Male	22	Social Sciences	3.2	Middle School	Elementary School
13	Male	22	Engineering and Technology	3.5	Middle School	Elementary School
14	Female	23	Humanities	3.8	Elementary School	Elementary School
15	Female	21	Humanities	3.7	High School	High School
16	Female	21	Social Sciences	3.4	High School	High School
17	Female	23	Humanities	4	High School	High School
18	Male	23	Social Sciences	3	Middle School	Elementary School
19	Female	22	Humanities	4	Middle School	Middle School
20	Female	23	Social Sciences	3	Elementary School	Middle School

participant's response before posing the next question, only proceeding to the next question when no further information is needed. Although an interview guide is used in IPA research, the purpose of this guide is to provide researchers with a framework rather than strictly dictate the content of the conversation (Smith et al. 2022). The interviews were audio-recorded with participants' consent and transcribed verbatim to ensure the accuracy of the data. The recordings were cross-checked with the transcripts to minimize any errors or misinterpretations. During the data collection process, all co-authors discussed the point of data saturation. When the researcher observed no new information emerging from the follow-up interviews, all co-authors decided to end further data collection.

The interviewer communicated with the interviewees in Chinese throughout the interviews so that they could express themselves in their mother tongue. The researcher initially translated the interview transcriptions from Chinese into English, with two professional translators reviewing and revising the translations to ensure accuracy, cultural appropriateness, and the integrity of the participants' statements. After transcription, the participants were invited to review their transcripts for accuracy and provide any additional information or corrections. Of the 20 participants, 15 responded, and five made revisions or added further insights. To ensure that the content of the interviews was not misinterpreted, each interviewee received a copy of the interview transcript in English. To protect the privacy and anonymity of the research participants, their names were replaced with pseudonyms, and potentially identifying information was removed during transcription. All interviews were transcribed within 48 h. Each participant's name and identifying information were removed from the interview transcripts. While presenting the data, we protected the privacy of the participants by anonymizing their names and assigning each participant a number for analysis purposes, such as P1 representing the first participant and P2 representing the second participant.

Data analysis. We employed the IPA method to analyze the data. During this process, we recorded and transcribed the interviews verbatim. Subsequently, we analyzed the principles of IPA (Smith et al. 2022). This analytical process involved reading and rereading the transcripts, making initial notes, identifying newly emerged themes, exploring connections between different themes, and then moving on to the next case to identify patterns and commonalities (Smith et al., 2022). This analysis method is widely used in qualitative research in psychology to explore individual lived experiences associated with complex, ambiguous, and emotionally charged domains(Smith et al., 2022). Neutrality is a central element of phenomenology and can be achieved by distinguishing the researcher's experience from the phenomenon under study (Finlay, 2014; Miller et al., 2018). In addition, the research team endeavored to distinguish their own experiences from the literature and the study results. This approach focuses on the lived experience of the person facing the situation rather than pre-existing theoretical stereotypes.

The data were analyzed using inductive methods, which helped to discover and identify themes from the data. Data analysis is an interactive process that involves several steps, such as reading and re-reading transcripts, initial recording, developing emerging themes, finding connections between emerging themes, and looking for patterns and alternative explanations. The first author familiarized herself with the data by repeatedly reading the transcripts and listening to the recordings. Once familiarized, the first author did coding, and themes and interpretations were identified through regular meetings with the second and third authors. New themes for the case arose through the coding of the exploratory notes and related transcript sections. These emerging themes were then analyzed and developed to find interrelationships between themes. In addition, the themes were linked through thematic mind maps to understand the unique interactions of these themes in the participants' experiences. Following this process, the focus of the analysis shifted to the next case. Several themes were renamed at this stage, thus collating the superordinate themes in line with IPA terminology (Smith et al., 2022). NVivo software was used as a data management tool.

Ethical considerations. This study obtained formal ethical approval from the JKEUPM Human Research Ethics Committee, with approval number JKEUPM-2023-309, ensuring that the research design followed high ethical standards. To fully protect the rights of potential participants, we provided them with detailed information sheets and consent forms that clearly outlined the purpose, process, and participation rights in the study.

Corresponding TPB variables	Themes	Subthemes
Attitudes	Positive perception	Positive help-seeking attitudes and outcome ($N = 14$)
toward	(<i>N</i> = 16)	Communication and mutual aid in help-seeking ($N = 6$)
the behavior		Help-seeking strategies and choices ($N = 9$)
		Value of help-seeking ($N = 7$)
	Negative	Dependency and solicitation for help ($N = 7$)
	perception $(N = 14)$	Psychological disturbances in help-seeking ($N = 14$)
Subjective norms	Social expectations and pressures in help-seeking	Family attitudes ($N = 9$)
	(N = 11)	Teachers attitudes ($N = 6$)
		Peer attitudes ($N = 10$)
Perceived	Motivators for help-seeking	Academic challenges and needs ($N = 15$)
behavior control	(N = 18)	Personal capabilities and attitudes ($N = 8$)
		Timeliness and urgency in problem-solvi ($N = 4$)
		Potential sources of help and their behaviors ($N = 13$)
	Inhibitors for help-seeking activities	Intrapersonal attitudes and emotional consideration ($N = 11$)
	(N = 14)	External circumstances and relationship dynamics ($N = 8$)
		Personal competence and self-reliance awareness ($N = 4$)
		Considerations of time and solution effectiveness ($N = 5$)

Table 2 Themes developed during the study grouped the following TPB aspects.

All interview content will be transcribed and treated anonymously to protect participants' privacy and data confidentiality. To further ensure the security of information, all this data is stored in password-protected files that only authorized members of the research team can access. Once the interview content is accurately transcribed, the original recording materials will be deleted to eliminate any risk of disclosing participants' identities (Smith et al., 2022).

Rigor. We took several steps to strengthen the study's credibility and methodological quality or trustworthiness (Graneheim and Lundman, 2004). First, we used open coding to ensure that our analyses were organized around themes that emerged from the transcripts rather than a predetermined structure. Researcher reflexivity was systematically employed (Malterud, 2001; Tong et al., 2007). In our study of the academic help-seeking behaviors of FGCS, we realized that our backgrounds and experiences as part of the study may have influenced our perceptions and understanding of the research questions. We carefully reflected on our experiences and how they might influence our research process. Third, the first author presented preliminary findings and discussed them with co-authors. An independent researcher with expertise in qualitative data analysis reviewed the two coded transcripts and integration. All authors reviewed the final themes. We also emailed findings to participants to assess the accuracy of the descriptive triangulation (Morse, 2015). Participants were allowed to respond via email regarding the accuracy of the narrative.

Results

Through the analysis and interpretation of the data, we uncovered perceptions of academic help-seeking behaviors among FGCS and what factors promote or hinder students' academic help-seeking. The six themes are as follows (1) Positive perception of academic help-seeking behavior; (2) Negative perception of academic help-seeking behavior; (3) Social expectations and pressures in help-seeking ; (4) Motivations for help-seeking; (5) Inhibitors for help-seeking activities; and (6) Pre-help-seeking assessment; each of the main themes contains emerging subthemes that are considered to be further elaborations of the meaning of the main theme. Table 2 illustrates the themes and subthemes. A table of recurrent themes for Research questions can be found in Supplementary Material 4. Attitudes toward the behavior. In the context of academic helpseeking, our interviewees exhibited both positive and negative attitudes toward seeking help. Students with a positive attitude towards seeking help believed that AHS could bring positive outcomes. They were willing to adopt different strategies to help themselves succeed. On the other hand, students with a negative attitude toward AHS thought that seeking help might disturb others and showed a lack of self-confidence in their abilities.

Positive perception of academic help-seeking behavior. The positive perception of seeking academic help mainly includes the belief that seeking help can bring positive results and that different strategies can be adopted to achieve positive outcomes. Additionally, seeking academic help is seen as a mutual help behavior.

Positive help-seeking attitudes and outcomes: The theme "Positive help-seeking attitudes and outcomes" primarily reflects students' belief that academic help-seeking can yield favorable results. For instance, 14 interviewees expressed the importance of confidently seeking help without fear of being perceived as unintelligent by others. They emphasized that seeking academic help can enhance their understanding of unfamiliar topics, effectively reinforce their knowledge, and contribute to their academic and future career success. Additionally, P11 articulated that seeking academic help is a learning process involving transitioning from unfamiliarity to proficiency. P15 conveyed similar sentiments.

"I don't think I would feel ashamed of this unless I wasn't paying attention in class and ended up asking questions that don't make sense. In that case, someone might feel embarrassed, but this hasn't been an issue for me." (P15)

Communication and mutual aid in help-seeking: The theme "Communication and mutual aid in help-seeking" primarily refers to the notion that seeking help is a form of mutual assistance. For instance, Participant 17 said, "Seeking help is a form of helping each other because when you ask others for help this time, they may ask you for help next time, creating a positive and active interaction. When seeking help from others, there is also often an opportunity to help them in return, forming a mutually beneficial relationship." Furthermore, Participant 10 believes, "This kind of relationship is not only limited to interactions between individuals but can also be a collaborative problemsolving process within a team or group." Another aspect of mutual assistance is that when you seek help, you need to accumulate certain social connections because, this time, you are asking others for help. Next time, they may ask you for help, thus gradually establishing your help-seeking network.

Help-seeking strategies and choices: The theme "Help-Seeking Strategies and Choices" refers to the belief among students that various strategies and options are available while seeking academic help. Some students feel that one must rely on oneself because others will not proactively help, and one cannot be wholly dependent on others.

"There won't be such kind-hearted people to help you with problems you don't understand unless you ask. If you don't take the initiative to ask, no one will come over to see if you can't handle the problem and then offer to explain it."(P2)

Students will also evaluate various situations during the helpseeking process, such as determining when it is appropriate to continue asking questions and when it is necessary to rely on one's efforts to find a solution. For example, P11 said: "It's definitely when they have free time; then I would ask about some of the more critical issues I'm currently facing or things that I might not be able to overcome quickly. "In seeking help, seven students firmly prioritize seeking help from themselves before turning to others. For example, Participant 10 said, "I prefer not to trouble others if it is something I can resolve on my own."

Value of help-seeking: The discussions revealed a consensus on the intrinsic value of seeking help, viewing it as a valuable and necessary action in the academic field. Despite initial reluctance due to concerns about self-esteem, the interviewees unanimously acknowledged that seeking help is a strategic method for overcoming obstacles. P12 stated, "You have to make the request actively," emphasizing the proactive nature of seeking help. When participants discussed the exchange of thoughts and knowledge that occurs in this process, the effectiveness of seeking help was further emphasized. As P2 put it, "When you seek help from others, it's an exchange of ideas... You always learn something new". Practical benefits were also mentioned, with P3 pointing out the time-saving aspect: "You might spend an hour learning something online, but a professional could explain it to you in seconds." Furthermore, seeking help from experienced individuals can help avoid unnecessary difficulties.

Negative perception of academic help-seeking behavior

Extraction and dependence on help: While seeking academic help, some students mentioned two types of negative learning help-seeking behaviors. One is defined as 'extraction,' and the other type is defined as 'dependence. The definition of "extraction" given by students is when a student has a clear goal before seeking help and directly asks for the answer to a question but does not engage in their thinking while seeking help. The entire process is solely for their purposes, which is considered a form of help-seeking extraction. P17 mentioned: "Extraction' is when a supervisor provides most of the necessary materials and framework for completing a project, to the extent that the student only needs to supplement a small amount of irrelevant information to complete the task. While seeking help, some help-seekers may worry that seeking help for an extended period may lead to dependency, where the first solution to a problem is not to rely on oneself. However, at the same time, they believe that if they do not become dependent, seeking help can be beneficial.

"For example, seeking help has two sides. It can be positive if you grasp that balance and seek help appropriately. But if you ask for help with every little thing, your motivation and thinking can solve it, but you become too dependent on asking others, which is not a good thing". (P9)

Psychological disturbances in help-seeking: In examining students' help-seeking behaviors, we have discovered that they encounter various negative emotions while seeking help. These negative emotions, in addition to affecting their willingness to seek assistance, may also have long-lasting effects on their academic development. Students may experience hesitations, concerns about bothering others, anxiety over the reactions of those they ask for help, inadequacies in their social skills, worries about their self-esteem, and feelings of shame.

First, many students consider the possibility of disturbing others when seeking help. When deciding whether to seek assistance, students consider their relationship with the person they seek help from.

"For me, it feels like a disturbance, but it also depends on the person. If the relationship is good, then maybe not. I feel like he definitely wouldn't mind me asking him, so I'll ask him." (P12)

When considering seeking help, students also feel their selfesteem and feelings of shame. They may be reluctant to seek help if the problem seems simple or caused by their carelessness. One interviewee described this psychological state:

"Suppose the problem is a simple one, but it's because I wasn't paying attention in class, I neglected this thing. And then, if I don't have a close relationship with the person, and if they are very busy, I won't ask for help because I would feel a bit ashamed." (P13)

Subjective norms. When analyzing students' help-seeking behavior, the "subjective norm" component of the Theory of Planned Behavior (TPB) provides a critical perspective. Subjective norms involve the perceived social pressure that individuals feel, that is, the opinions of essential others or groups about whether they should or should not perform a behavior. In the context of academic help-seeking, these social pressures mainly come from parents, teachers, and peers.

Parents' attitudes play a pivotal role in students' help-seeking behavior. Some parents actively encourage their children to seek help, as evidenced by P13: "As for my family, they have always taught me not to keep problems to myself and to seek a teacher's help as soon as possible." On the other hand, some parents may be unable to provide the necessary support due to their limitations: "As for my parents, since they don't have a high level of education... they are more inclined to say that they can't help me. (P20)" Most teachers hold a supportive attitude toward students' help-seeking behavior. They encourage students to ask questions, actively participate in academic discussions, and share professional resources to foster academic exploration. This supportive environment encourages students to seek help more willingly when facing challenges.

"They would also post some just to show us some of those news current events and stuff, just that they would share some of those professional expertise resources with us." (P12)

Students often receive encouragement and support from their peers, which drives them to seek help when faced with academic challenges actively. This culture of mutual assistance among peers enhances the students' problem-solving abilities and bolsters their willingness to collaborate academically. For example, P13 shared her experience: "Some of my friends, whenever they encounter academic issues they don't understand, are very proactive in seeking help from those around them."

Perceived behavior control. In exploring academic help-seeking behaviors, two critical factors emerge as decisive elements: motivations for help-seeking inhibitors to seeking help. Each of these elements plays a significant role in the decision-making process, leading a student to seek or refrain from seeking academic help.

Motivations for help-seeking

Academic challenges and needs: Academic tasks often require a range of complex skills and knowledge, and students may face specific challenges in areas such as research methods, paper writing, and exam preparation. For instance, P10 faced problems with designing tables and formatting papers in writing, P15 lacked professional training from the school during paper writing, and P6 faced issues due to the major, such as choosing a topic that was too broad and unable to focus. Additionally, students may need help with general academic needs and difficulties, such as stress due to the importance and urgency of specific issues, confusion or anxiety after class, or unclear or unknown parts in coursework or projects. To address these needs, students may require special guidance and support, a classroom environment that accepts and appreciates all students, and positive relationships with teachers and peers.

Personal capabilities and attitudes: Individual factors such as the problem's difficulty, personal study habits, self-esteem and confidence, and interest in the subject play a significant role in determining whether students seek academic help. Students evaluate their abilities and attitudes before deciding to seek help. They first attempt to solve problems independently and only consider seeking help when the problem exceeds their capabilities. Students' level of interest in the subject affects their willingness to seek help. Additionally, personal study habits also influence behavior when seeking help. Lastly, those students who strive for excellence and perfection may seek help even when they can complete tasks independently to enhance quality and achieve better grades.

"If there's a subject and then there's a group competition and we want to do better,then go and ask the other teacher to see what kind of advice he's giving, and it's a call for help to get better and be more successful." (P2)

Timeliness and urgency in problem-solving: When confronted with academic challenges, individuals' help-seeking behavior is influenced by various factors, including the timeliness and urgency of the issue. The interviewer emphasized the significance of timeliness in the decision-making process of seeking help and stressed the need for a prompt response. Students tend to quickly seek external support when facing problems that require immediate resolution, mainly when resolving the issue, which is crucial for their academic advancement. Urgency is another critical factor, as this sense of urgency may lead students to seek help in situations they would not typically choose, as the necessity of completing tasks and achieving goals outweighs self-image considerations. For example, P16 said: "If I have more time, I'll figure it out on my own and only ask others if I can't."

Potential sources of help and their behaviors: When students seek academic help, they consider the attitude of the person they seek help from, the availability of resources, and interpersonal relationships. Firstly, concerning the lack of resources, P10 stated, "I'm afraid that the other person may not have time or be unable to provide useful academic resources. These are also some obstacles." Secondly, the experience of seeking help is also influenced by the attitude of the person being approached. A positive attitude and supportive guidance are more likely to facilitate effective academic communication. Moreover, having good interpersonal relationships can alleviate concerns when seeking help and increase the likelihood of seeking assistance.

"If the other person has a bad tone or tells you how you should be doing things, I think that can greatly affect the communication... But if the other person is guiding, I believe that kind of communication is more effective." (P12)

Inhibitors for help-seeking

Intrapersonal attitudes and emotional consideration: When students seek academic help, they encounter various challenges, including self-assessment, lack of confidence in their knowledge level, the reluctance to trouble others, and emotional factors such as the fear of appearing incompetent. These factors lead to hesitation and resistance in seeking help. Reflecting on the reluctance to ask for help, P13 stated, "Sometimes I feel somewhat inferior because I don't want others to doubt how low my abilities might be." This reveals the negative emotions associated with not wanting to expose one's shortcomings through self-evaluation. Similarly, regarding the mindset of not wanting to inconvenience others, P15 shared his concerns: "Asking for help feels like I owe something to someone, and I will think of ways to repay that favor later on." Such psychological factors lead to indecision when contemplating asking for help.

External circumstances and relationship dynamics: When students face academic problems and need help, they consider various factors, including the degree of closeness in their interpersonal relationships, the psychological burden of not wanting to trouble others, the perceived attitude and busyness of the helpers, and whether they can solve the problem. First, closeness in interpersonal relationships is essential in seeking help. If the relationship is not close, the student may hesitate even if the person can help. For example, P11 said: "You will naturally seek help from people you know well." Second, students often worry about causing inconvenience to others when seeking help. This mindset affects their willingness to seek help. P15 said: "I would rather inconvenience myself than inconvenience others." Additionally, the attitude and busyness of the helpers and their ability to provide help are factors that students should consider.

Personal competence and self-reliance awareness: In seeking academic help, students' self-reliance, self-assessment of their abilities, and social concerns are vital factors that influence their help-seeking behavior. They try to solve problems independently and avoid troubling others, even if it means facing the challenge of solving problems independently. Additionally, students may feel embarrassed when seeking help, fearing that their questions are too simple and that they will appear ignorant. As evidenced by the example below:

"Doesn't want to bother others if I can solve the problem himself." (P12)

"I feel embarrassed, and then I think when I go to ask someone else, will they think my question is too simple." (P20)

Considerations of time and solution effectiveness: When students consider seeking help, they believe in the situation's urgency and

the feasibility of solving the problem. If they feel it is too late or the help is ineffective, they may choose to solve the problem independently or give up. For instance, P16 said, "If it's very late, I won't think about seeking help from others," highlighting the importance of time in the decision to seek help. Additionally, if the problem is not effectively resolved, students may choose to give up. For example, P6 mentioned, "If I can't find a good solution, I will give up when the situation only gets relieved." Finally, some interviewees said the possibility of self-study: "Because there is no time and asking others is too slow. Even if I make a mistake in self-study, it's just a mistake" (P2), reflecting that in urgent situations, they prefer to try to solve the problem themselves rather than wait for help from others.

Discussion

In this study, we focus on revealing the behavioral patterns and underlying motivations of college students, particularly FGCS, when seeking academic assistance. We analyze the key factors influencing students' help-seeking behavior by applying the Theory of Planned Behavior (TPB) and its three main components—attitude, subjective norms, and perceived behavioral control.

Our research shows that students' positive attitudes toward seeking academic help include recognizing the value of seeking help and the benefits of mutual assistance and communication. Students generally consider seeking help a crucial part of their academic success, as it can help solve specific problems and improve learning effectiveness. Following the present results, previous studies have demonstrated that Students who tend to seek academic help usually achieve better academic results actively (Fong et al., 2023; Parnes et al., 2020). Although seeking academic help has potential benefits, students have different views. Although many students value independence, they also recognize their limitations. They will seek help, especially when they believe that seeking help will benefit their learning and enable them to solve problems more effectively. (Payne et al., 2021; Richards, 2022). In addition, our research revealed another important finding: students recognize the importance of seeking help strategies and choices. Choosing the appropriate way and time to ask questions is a part of their active seeking of help. This finding is consistent with that of Almaghaslah and Alsayari (2022), who demonstrated that the frequency of use of a particular support resource does not reflect its usefulness.

The research discussed the subjective norms influencing college students' attitudes toward seeking help in their studies. The family's attitude shapes how students seek academic help (Avant et al., 2021; Lin and Muenks, 2023). Kilday and Ryan (2023) demonstrated that students believe the degree to which their guidance teacher welcomes their questions indicates their willingness to provide help. When peers have a positive attitude toward seeking help and actively engage in it, a collaborative learning culture can be created, wherein seeking help is regarded as an integral part of the learning process rather than a deficiency. (Smalley and Hopkins, 2020; Williams-Dobosz et al., 2021). Brouwer and Engels (2022) showed that when students were friends, they were more likely to approach each other for help.

Personal and situational factors often influence the motivation to seek academic help. The findings also emphasize that students' primary motivation is to overcome academic challenges, such as mastering complex course materials, improving grades, or preparing for crucial evaluations. The need to clarify misunderstandings or fill knowledge gaps that persist after class often compels students to seek external support. These results corroborate the ideas of Önder and Akçapinar (2023), who suggested that most students turn to others for help when they struggle with an extensive introductory course or need advice. Similarly, some research has investigated that students may seek help from current library instruction programs to help them better use library resources and improve their information (Dahlen and Hanson, 2023; Zhang et al., 2020). Another powerful motivation is the requirement to collaborate in specific academic tasks, such as group projects or school-organized competitions, where collective success depends on the input and cooperation of all members. In these situations, seeking help is seen as beneficial and crucial for achieving common goals. Students' personal learning habits and attitudes toward their learning domain also influence their helpseeking behavior. Following the present results, (Dueñas et al., 2021b) found that psycho-emotional variables, i.e., the emotional cost of academic help-seeking, perceived benefits, threats, and avoidance, play an essential role in educational help-seeking strategies and influence students' eventual help-seeking behavior.

A mix of internal and external factors influences the reluctance of students to seek academic help. Many students downplay the need for help if the issue seems minor, while others fear revealing academic weaknesses. Bornschlegl et al. (2020) found that the greater the burden of stereotype threat on students (the cognitive burden that arises when an individual is concerned about confirming negative stereotypes about their social group), the more they tend to perceive seeking academic help as a source of shame. Additionally, the quality of interpersonal relationships plays a crucial role; students are less likely to seek help if they perceive weak or tense relationships with potential helpers. They may also hesitate if they believe the helper is disinterested or lacks the necessary expertise (Micari and Calkins, 2021). Brouwer and Engels (2022) found that students with similar levels of achievement are more likely to connect in friendship and mutual aid networks. In an academic context, many struggling students and other students with insufficient representation only seek help when they have a concrete need, usually in the later stages of the semester, after receiving several low grades. (Ives and Castillo-Montoya, 2020; Payne et al., 2021; White and Canning, 2023). When encountering problems, many students are more willing to solve them independently (Chang et al., 2020; Cheong et al., 2021). Strong independence and belief in one's ability to solve problems can also lead to students giving up seeking help. In contrast to previous literature, self-reliance is positively expressed in this study, believing students can rely on themselves and evaluate their abilities to find solutions.

Research implications. The practical implications of this study highlight key themes surrounding the academic help-seeking behavior of first-generation college students (FGCS) in China. The findings emphasize the range of factors influencing helpseeking, from perceptions to emotional and external barriers. Faculty and college leaders can use these insights to develop targeted interventions that support FGCS in overcoming these challenges. First, since students hold both positive and negative perceptions about help-seeking, creating a classroom culture where seeking help is normalized and encouraged is essential. Faculty should promote office hours and foster open discussions, presenting help-seeking as a strength. Second, the influence of family, peers, and teachers on help-seeking behavior suggests that mentorship programs and workshops should engage families to enable them to appreciate the potential benefits of academic support. Pairing students with mentors or peers to guide them may be necessary. Third, since many FGCS lack effective help-seeking strategies, workshops aimed at teaching students how to approach professors, utilize academic resources, and manage help-seeking may prove beneficial (Davison et al., 2023; King et al., 2024; Zander and Höhne,

2021). Addressing emotional barriers, such as fear of judgment, through confidential counseling and mental health services is critical to reducing inhibitions (Dueñas et al., 2021a; Wally et al., 2023). Finally, peer tutoring programs and targeted academic workshops can provide the support students need to navigate difficult coursework, helping them overcome academic challenges and succeed (Wang, 2024).

The theoretical implications of this study highlight the limitations of the Theory of Planned Behavior (TPB) when applied to the academic help-seeking behaviors of first-generation college students (FGCS). While TPB's constructs-attitudes, subjective norms, and perceived behavioral control-effectively explain planned actions, the findings suggest that it does not fully capture the influence of cultural and emotional factors. In collectivist societies like China, family expectations and cultural norms can discourage students from seeking help, as doing so may be viewed as a sign of weakness or shame. This indicates the need for TPB to incorporate cultural dimensions as a key factor in shaping behavior. Additionally, emotional barriers such as fear of judgment and embarrassment are significant deterrents to helpseeking, but TPB's perceived behavioral control does not fully address these complexities. Moreover, help-seeking is not always planned; it can be spontaneous, driven by immediate academic pressures. Therefore, expanding TPB to include both spontaneous and planned behaviors, along with cultural and emotional factors, would enhance its explanatory power in this context.

Research limitations and future research directions. The current study provides a new perspective for understanding the academic help-seeking behavior of FGCS, but there are several limitations. Firstly, because more than two-thirds of the participants were female, the results may be biased towards female experiences and lack sufficient representation of male participants. Secondly, the study was conducted only in a public university in eastern China, limiting the generalizability of the results. Therefore, future research should be conducted across different regions and types of schools to validate and compare the findings more widely. Thirdly, the use of snowball sampling may have introduced selection bias, as participants may have referred individuals with similar characteristics, which could reduce the diversity of the sample. Despite our efforts to encourage referrals from diverse backgrounds, the potential homogeneity in the sample remains a limitation. In addition, the interpretive analysis of this study contains subjectivity and bias on the part of the researchers (Smith, 1996). To improve the objectivity and depth of the research, a mixed-methods approach, combining qualitative and quantitative data analysis, is recommended. Finally, although this study did not specifically focus on the influence of cultural differences on help-seeking behavior, given that all participants were Chinese college students and China is a typical collectivist society (Steele and Lynch, 2013), future research could explore academic help-seeking behavior in different cultural backgrounds to reveal how cultural factors affect students' helpseeking methods and adaptability.

Conclusion

This study explores how FGCS perceive and engage in academic help-seeking. Using the Theory of Planned Behavior (TPB) as an analytical framework, we have uncovered some key insights. Our research emphasizes students' positive attitudes toward seeking academic help. This attitude reflects TPB's "attitude" component, indicating that students recognize the intrinsic value of seeking help and see it as part of the educational process. In our study, the influence of subjective norms, particularly the role of peers, family, and educators, emerged as an essential factor. This finding emphasizes the importance of creating a supportive academic environment where students feel encouraged by those around them to seek help when needed. Additionally, the study revealed various factors that promote or hinder help-seeking behavior. Factors such as perception of academic challenges and personal confidence promote help-seeking behavior, while emotional distress and external circumstances and relationship dynamics hinder it. These factors align with TPB's "perceived behavioral control" component, indicating that students' help-seeking behavior is influenced by their intentions and their assessment of potential barriers and problem-solving abilities. In conclusion, our study contributes to a deeper understanding of the complex dynamics of help-seeking behavior among FGCS.

Data availability

All data generated or analysed during this study are included in this published article [and its supplementary information files].

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References

- Adams D, Chuah KM, Devadason E, Azzis MSA (2023) From novice to navigator: Students' academic help-seeking behaviour, readiness, and perceived usefulness of ChatGPT in learning [Article; Early Access]. Edu Inform Technol. https://doi.org/10.1007/s10639-023-12427-8
- Ajzen I (1991) The theory of planned behavior [Article]. Organ Behav Hum Decis Process 50:179–211
- Ajzen I (2012) Martin Fishbein's legacy: the reasoned action approach. Ann Am Acad Political Soc Sci 640:11–27
- Al-Rashidi AH, Abdel-Al Ibrahim KA (2023) The correlated relationship between academic help-seeking and academic self-efficacy among university students. Conhecimento Divers 15:281–309
- Almaghaslah D, Alsayari A (2022) Academic help-seeking behaviors of undergraduate pharmacy students in Saudi Arabia: usage and helpfulness of resources. Healthcare 10:1264
- Avant DW, Miller-Ott AE, Houston DM (2021) "I needed to aim higher:" former foster youths' pathways to college success. J Child Fam Stud 30:1043–1058
- Azpeitia J, Lazaro YM, Ruvalcaba SA, Bacio, GA (2023) "It's easy to feel alone, but when you have community, it makes college a lot easier": first-generation students' academic and psychosocial adjustment over the first year of college. J Adolesc Res. https://doi.org/10.1177/07435584231170040
- Bimerew MS, Arendse JP (2024) Academic help-seeking behaviour and barriers among college nursing students. Health SA 29:e2425
- Bornschlegl M, Meldrum K, Caltabiano NJ (2020) Variables related to academic help-deeking behaviour in higher education - findings from a multidisciplinary perspective. Rev Educ 8:486–522
- Broadbent J, Howe WDW (2023) Help-seeking matters for online learners who are unconfident. Distance Educ 44:106–119
- Broadbent J, Lodge J (2021) Use of live chat in higher education to support selfregulated help seeking behaviours: a comparison of online and blended learner perspectives. Int J Educ Technol High Educ 18:20
- Brouwer J, Engels MC (2022) The role of prosocial attitudes and academic achievement in peer networks in higher education. Eur J Psychol Educ 37:567–584
- Cao C, Zhu C, Meng Q (2021) Chinese international students' coping strategies, social support resources in response to academic stressors: does heritage culture or host context matter? Curr Psychol 40:242–252
- Chang J, Wang SW, Mancini C, McGrath-Mahrer B, de Jesus SO (2020) The complexity of cultural mismatch in higher education: norms affecting firstgeneration college students' coping and help-seeking behaviors. Cult Divers Ethn Minor Psychol 26:280–294
- Chang YY, Wannamakok W, Kao CP (2022) Entrepreneurship education, academic major, and university students' social entrepreneurial intention: the perspective of Planned Behavior Theory. Stud High Educ 47:2204–2223
- Chen YM, Li L, Wang XY, Li YL, Gao FQ (2018) Shyness and learning adjustment in senior high school students: mediating roles of goal orientation and academic help seeking. Front Psychol 9:13
- Cheong Y, Gauvain M, Palbusa JA (2021) Communication with friends and the academic adjustment of first- and non-first-generation students in the first year of college. J Coll Stud Retent.-Res Theory Pract 23:393–409
- China, SCOTPSRO (2022). State Council of the People's Republic of China. (2022). Statistical bulletin of national education development in 2022

Dahlen SPC, Hanson K (2023) In their words: student reflections on informationseeking behaviors. J Acad Librariansh 49:17

- Davison K, Malmberg LE, Sylva K (2023) Academic help-seeking interactions in the classroom: a microlongitudinal study. Br J Educ Psychol 93:33–55
- Dueñas JM, Camarero-Figuerola M, Castarlenas E (2021a) Academic help-seeking attitudes and their relationship with emotional variables. Sustainability 13:6120 Dueñas JM, Camarero-Figuerola M, Castarlenas E (2021b) Academic help-seeking
- attitudes, and their relationship with emotional variables. Sustainability 13:9 Fan YY, Nkansah JO (2024) The exploration of online academic help-seeking
- behavior of first-generation college students in developing countries: evidence from China. Front. Educ 8:1333824
- Fang S, Lu Y (2022) The different academic experiences between Chinese and american first-generation college students from the perspective of higher education popularization. Fudan Educ Forum

Finlay L (2014) Engaging phenomenological analysis. Qual Res Psychol 11:121-141

- Finny MS, Suresh P, Prabakhar AAJ (2022) Stress, anxiety, and depression among first-generation college students in chennai. Int J Early Child Spec Educ 14:1071-1079
- Fong CJ, Gonzales C, Cox CHT, Shinn HB (2023) Academic help-seeking and achievement of postsecondary students: a meta-analytic investigation. J Educ Psychol 115:1–21
- Graneheim UH, Lundman B (2004) Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. Nurse Educ Today 24:105–112
- Hansen-Brown AA, Lavigne C, Frade K (2023) "I'm proud to say I was the first in my family to go to college": how students perceive professor self-disclosure of firstgeneration status. Soc Psychol Educ. https://doi.org/10.1007/s11218-023-09791-1
- Ibrahim H, Mariapan M, Lin ELA, Bidin S (2021) Environmental concern, attitude, and intention in understanding student's anti-littering behavior using structural equation modeling. Sustainability 13:12
- Ives J, Castillo-Montoya M (2020) First-generation college students as academic learners: a systematic review. Rev Educ Res 90:139–178
- Jeng A (2024) Individualism and collectivism's impact on students' academic helping interactions: an integrative review. Soc Psychol Educ 27:2771–2807
- Kang YY, Mok KH (2024) China's policy responses to university ranking: changes and new challenges. Scand J Educ Res 68:67–78
- Karabenick SA (2003) Seeking help in large college classes: a person-centered approach. Contemp Educ Psychol 28:37–58
- Karabenick SA, Knapp JR (1988) Help-seeking and the need for academic assistance. J Educ Psychol 80:406–408
- Kilday JE, Ryan AM (2023) Who do students ask for help with classwork? Sources of help and changes in help-seeking from peers during early adolescence. J Early Adolesc 43:746–783
- King RB, Luo Y, Xie M (2024) Good begets good: the role of helping others on engagement and achievement among university students. Res High Educ 65:989–1006
- Koo A (2021) Negotiating individualisation in neoliberal China: youth transitions among the new generation of rural migrants. Child Geogr 19:754–765
- Laajala-Lozano A, Jenkins SR (2022) Undergraduates' academic acculturative stress at the intersection of first-generation status and gender in a public university setting. J Coll Stud Retent Res Theory Pract. https://doi.org/10.1177/ 15210251221120396
- LeBouef S, Dworkin J (2021) First-generation college students and family support: a critical review of empirical research literature. Educ Sci 11:294
- Li RH, Hassan NC, Saharuddin N (2023a) College student's academic help-seeking behavior: a systematic literature review. Behav Sci 13:38
- Li XJ, Liu WT, Hu K (2023b) Learning motivation and environmental support: how first-generation college students achieve success? Front Psychol 14:1280783
- Lim MA, Liu B, Sun Z (2024) De-westernising competition: 'harmony of competition' in Chinese higher education. Stud High Educ. https://doi.org/10.1080/ 03075079.2024.2386408
- Lin SJ, Muenks K (2023) Family context of mindset matters: students' perceptions of parent and sibling math mindsets predict their math motivation, behavior, and affect. Appl Dev Sci. https://doi.org/10.1080/10888691.2023.2177163
- Malterud K (2001) Qualitative research: standards, challenges, and guidelines. Lancet 358:483-488
- Martínez-López Z, Moran VE, Mayo ME, Villar E, Tinajero C (2023) Perceived social support and its relationship with self-regulated learning, goal orientation self-management, and academic achievement. Eur J Psychol Educ. https://doi.org/10.1007/s10212-023-00752-y
- Micari M, Calkins S (2021) Is it OK to ask? The impact of instructor openness to questions on student help-seeking and academic outcomes. Act Learn High Educ 22:143–157
- Miller RM, Chan CD, Farmer LB (2018) Interpretative phenomenological analysis: a contemporary qualitative approach. Couns Educ Superv 57:240–254
- Morse JM (2015) Critical analysis of strategies for determining rigor in qualitative inquiry. Qual Health Res 25:1212–1222
- Moustakas C (1994) Phenomenological research methods. Sage publications

- Naumova K (2022) Could I easily get professional help if I wanted to?: professional help-seeking intentions and the theory of planned behavior. Psihologija 55:427-442
- Nawi NC, Al Mamun A, Hassan AA, Ibrahim W, Mohamed AF, Permarupan PY (2022) Agro-entrepreneurial intention among university students: a study under the premises of theory of planned behavior. Sage Open 12:10
- Nguyen DJ (2023) Low-income students thriving in postsecondary educational environments. J Divers High Educ 16(4):497–508. https://doi.org/10.1037/ dhe0000360
- Önder A, Akçapinar G (2023) Investigating the effect of prompts on learners' academic help-seeking behaviours on the basis of learning analytics. Educ Inform Technol https://doi.org/10.1007/s10639-023-11872-9
- Pan Q, Hao ZH (2023) Chinese college students' help-seeking behavior: an application of the modified theory of planned behavior. Psych J 12:119–127
- Parker JS, Shum KZ, Suldo SM, Shaunessy-Dedrick E, Ferron JM, Dedrick RF (2019) Predictors of adaptive help seeking across ninth-grade students enrolled in advanced placement and international baccalaureate courses. Psychol Sch 56:652–669
- Parnes MF, Kanchewa SS, Marks AK, Schwartz SEO (2020) Closing the college achievement gap: impacts and processes of a help-seeking intervention. J Appl Dev Psychol 67:12
- Payne T, Muenks K, Aguayo E (2021) "Just because I am first gen doesn't mean I'm not asking for help": a thematic analysis of first-generation college students' academic help-seeking behaviors. J Divers High Educ https://doi.org/10.1037/ dhe0000382
- Peeters A, Robinson V, Rubie-Davies C (2020) Theories in use that explain adolescent help-seeking and avoidance in mathematics. J Educ Psychol 112:533–550
- Phillips LT, Stephens NM, Townsend SSM, Goudeau S (2020) Access is not enough: cultural mismatch persists in limiting first-generation students' opportunities for achievement throughout college. J Personal Soc Psychol 119:1112–1131
- Qu LJ, Shao JY, Bai YF, Liu HC (2023) Cultural reproduction or cultural mobility: The influence of individual characteristics and student engagement on academic achievement of the first generation college students in Chinese Research University. Int J Educ Res 117:11
- Richards BN (2022) Help-seeking behaviors as cultural capital: cultural guides and the transition from high school to college among low-income first-generation students. Soc Prob 69:241–260
- Ro HK, Lee J, Fernandez F, Conrad BH (2021) We don't know what they did last summer: examining relationships among parental education, faculty interaction, and college students' post-first-year summer experiences. Innov High Educ 46:21–39
- Ryan AM, Gheen MH, Midgley C (1998) Why do some students avoid asking for help? An examination of the interplay among students' academic efficacy, teachers' social-emotional role, and the classroom goal structure. J Educ Psychol 90:528–535
- Ryan AM, Shin H (2011) Help-seeking tendencies during early adolescence: an examination of motivational correlates and consequences for achievement. Learn Instr 21:247–256
- Shin HY, Park C (2023) Emerging adults' help seeking from friends: the role of perceived goal structures and implications for adjustment. Curr Psychol 42:14569–14583
- Smalley RT, Hopkins S (2020) Social climate and help-seeking avoidance in secondary mathematics classes. Aust Educ Res 47:445–476
- Smith JA (1996) Beyond the divide between cognition and discourse: using interpretative phenomenological analysis in health psychology. Psychol Health 11:261–271
- Smith JA (2011) Evaluating the contribution of interpretative phenomenological analysis. Health Psychol Rev 5:9–27
- Smith JA, Flowers P, Larkin M (2022) Interpretative phenomenological analysis: theory, method, and research. SAGE
- Steele LG, Lynch SM (2013) The pursuit of happiness in China: individualism, collectivism, and subjective well-being during China's economic and social transformation. Soc Indic Res 114:441–451
- Thompson ME (2021) Grade expectations: the role of first-year grades in predicting the pursuit of stem majors for first- and continuing-generation students. J High Educ 92:961–985
- Tong A, Sainsbury P, Craig J (2007) Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. Int J Qual Health Care 19:349–357
- Toutkoushian RK, Stollberg RA, Slaton KA (2018) Talking 'bout my generation: defining "first-generation college students" in higher education research. Teach Coll Rec 120:38
- Wally CM, Miller KG, Frey RF (2023) Student support-seeking behaviors in general chemistry and introductory physics courses: An exploratory study using simple ego-network analysis methodology. J Chem Educ 100:2105–2115

- Wang H, Ma BL, Cudjoe D, Farrukh M, Bai RB (2023) What influences students' food waste behaviour in campus canteens?. Br Food J 125:381–395
- Wang T (2024) Online peer tutoring programs foster community and learning skills among college students. Educ Inform Technol https://doi.org/10.1007/ s10639-024-12656-5
- White A, Ball H, LaBelle S (2022) Student intentions to engage instructors in mental health-related conversations: an application of the theory of planned behavior. J Am Col Health https://doi.org/10.1080/07448481.2022.2060710
- White M, Canning EA (2023) Examining active help-seeking behavior in firstgeneration college students. Soc Psychol Educ 26:1369–1390
- Williams-Dobosz D, Jeng A, Azevedo RFL, Bosch N, Ray C, Perry M (2021) Ask for help: online help-seeking and help-giving as indicators of cognitive and social presence for students underrepresented in chemistry. J Chem Educ 98:3693–3703
- Won S, Hensley LC, Wolters CA (2021) Brief research report: sense of belonging and academic help-seeking as self-regulated learning. J Exp Educ 89:112–124
- Yee T, Ceballos P (2023) Examining the help-seeking intentions of Chinese individuals in the United States. J Multicult Couns Dev 51:69-79
- Yee T, Ryan K (2023) Examining international students' help-seeking intentions utilizing the theory of planned behavior. Int J Adv Couns 45:370–384
- Zander I, Höhne E (2021) Perceived peer exclusion as a predictor of students' helpseeking strategies in higher education differences by gender and university major. Z Fur Entwicklungspsychologie Und Padagogische Psychologie 53:27–41
- Zhang YF, Lo P, So S, Chiu DKW (2020) Relating library user education to business students' information needs and learning practices: a comparative study. Ref Serv Rev 48:537–558

Author contributions

LR contributed to the conceptualization, data collection, data analysis, and writing and editing. NCH and NS. Provided supervision of the whole study and revised the manuscript. All authors agreed with the manuscript.

Competing interests

The authors declare no competing interests.

Ethical approval

This study received ethical approval from the Ethics Committee for Research Involving Human Subjects at Universiti Putra Malaysia (JKEUPM), with approval reference number JKEUPM-2023-309. Approval was granted on July 6, 2023, before the start of the research, and is valid until July 6, 2024. The approval covers all aspects of the study, including participant recruitment, data collection, and data analysis, conducted within the study site in Zhejiang Province, China. All research procedures were conducted following the relevant guidelines and regulations applicable to human research, including the Declaration of Helsinki.

Informed consent

Informed consent was obtained both orally and in writing from each first-generation college student (FGCS) participant before their involvement, conducted by the principal investigator or designated team members from July to October 2023. Eligibility required participants to be college seniors from rural China with a GPA of at least 3.0 and recognized for academic performance. Consent covered participation, data use, publication, and audio recording, with interviews conducted in Chinese for comfort and later translated into English. Participants were assured of confidentiality and anonymity, with pseudonyms and redacted identifying information. They were also provided with the researcher's email address and mobile number for any further inquiries. No vulnerable groups, minors, or incentives were involved. The consent process and all procedures adhered to ethical guidelines to ensure participant rights and data integrity.

Additional information

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Correspondence and requests for materials should be addressed to Norlizah Che Hassan.

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