The exploration of online academic help-seeking behavior of first-generation college students in developing countries: evidence from China

Fan Yuying* and Jacob Oppong Nkansah

School of Graduate Studies, Lingnan University at Hong Kong, Tuen Mun, Hong Kong SAR, China

Introduction: With the continuous expansion of higher education globally, the number of first-generation college students (FGCS) is also increasing, particularly in developing countries where FGCS account for more than half of all college students.

Methods: This qualitative study explores the experience of Chinese FGCS in online academic help-seeking (OAHS) behavior through semi-structured interviews. The narratives from fifty-eight participants expand the understanding of how FGCS use the Internet to seek academic help when their family cultural capital is insufficient, and also present the role of family in this process.

Results: Three themes are found. First, FGCS prefer one-way help-seeking compared to interactive help-seeking. This situation is consistent with FGCS' choice in traditional contexts. Second, the Internet is used by FGCS most of the time to address specific issues without assisting them in academic self-growth effectively. Third, FGCS crave more spiritual support and encouragement from families.

Discussion: Based on the theories of cultural capital and cultural mismatch, the findings reveal the cultural mismatch and behavioral characteristics of OAHS in the Chinese context, giving implications for university practitioners to provide targeted assistance and training to FGCS.

KEYWORDS

China, first-generation college students, online academic help-seeking, family support, cultural mismatch

1 Introduction

Since the 1950s, the rapid expansion of higher education in the global scope has made its form from elite to popular, and then to universal (Schofer and Meyer, 2005). More and more people receive higher education, the number of first-generation college students (FGCS) is gradually increasing. First-generation college students refer to college students whose parents or single parent have not obtained a four-year bachelor's degree (U.S. Department of Education, 2020). With the growing proportion of FGCS, the learning behavior and academic performance of such groups deserve attention. Due to the relatively low cultural capital of families, FGCS encounter greater academic challenges than non-FGCS during college years (Dumais and Ward, 2010). Developing countries particularly need emphasis because of their later start of higher education and larger number of FGCS. As the most populous country, China has a very large number of FGCS. According to the data of a Tsinghua University's project, FGCS accounted for 75% of the college student population in China (Zhang et al.,

2016). In this study, FGCS refer to the first college student in a family where neither parent has received higher education (Du et al., 2020).

FGCS have received attention due to its relevance to educational inequality (Chang et al., 2020). In the past 20 years, countries around the world have been striving to eliminate educational inequality. For example, China has issued the targeted enrollment plan (the Plan) for poverty-stricken areas since 2012, and the policy tilt has increased the opportunities for students from disadvantaged families to pursue higher education. The research data of Zhang et al. (2016) showed that over two-thirds of Chinese FGCS come from rural areas (69.74%). However, such a large group has not attracted enough attention from Chinese scholars. In the past, most of studies about FGCS were conducted in the context of the United States, as American scholars dominated this research field. Scholars from 27 countries have published papers related to FGCS, with the United States ranking first in terms of publication volume (Mei and Yu, 2022). However, significant differences exist between FGCS from Chinese families and those from American families. In the United States, most FGCS come from non-white families and ethnic minorities, who belong to minority groups (Padron, 1992; Cowan Pitre and Pitre, 2009; Falcon, 2015). In China, the Plan reflects the fairness of enrollment opportunities to higher education, allowing FGCS not being a minority group. China's college entrance examination mechanism is also friendly to FGCS. On this condition, although FGCS in China also face the difficulty of lacking family cultural capital, their social and campus environment is different from that of the United States, which may lead to their learning behavior being different from that of FGCS in the United States.

There are currently some comparative studies on the choice of further education, characteristics of pre university learning, family characteristics between FGCS and non-FGCS in China (Bao, 2013; Bao and Chen, 2015; Lu and Hu, 2015), but there is few research on the specific learning behaviors and abilities of FGCS. In the context of China, current study pay attention to the characteristics and challenges of online academic help-seeking (OAHS) behavior of FGCS, providing useful references for colleges and universities to address the distinctive educational needs of FGCS, give targeted support, and promote the growth of learning abilities. Academic help-seeking (AHS) is defined as those students ask academic related questions for help to teachers or classmates in oral or written form excluding examinations or tests (Karabenick and Knapp, 1988). As the internet became increasingly popular, online academic help-seeking (OAHS) emerged, referring to the act of spontaneously seeking help from others through the medium of the Internet (Cheng and Tsai, 2011).

2 Literature review

2.1 Theoretical frameworks

Bourdieu (2011) identified three forms of capital, namely economic, cultural, and social capital, each with a unique association with social class. In Bourdieu (2011) concept, social capital is emphasized on conflict and power function. While, Putnam held another view on social capital. Putnam posited that the prosperous accumulation of social capital is linked to the region's proficient economic system and robust political integration (Putnam et al., 1994). The chasm between urban and rural areas is essentially a class

issue. Dong (2015) believed that children from rural families are born in the lower class who cannot be compared to the upper class in terms of family economic capital, social capital, and cultural capital. Cultural capital is a widely accepted sociological concept, including embodied cultural capital, objectified cultural capital and institutionalized cultural capital (Bourdieu, 2011). Parents' educational level has been proven to be positively correlated with children' learning behavior and ability (Zhao and Fan, 2014; Du et al., 2020). Parents with good cultural capital could pass on their strengths to children and reproduce social class (Bourdieu 2011). As conceptualized by Bourdieu (2011), social capital encompasses the tangible and intangible assets that individuals are able to access through their network of social relationships. The inequality in cultural accumulation among children actually reveals the uneven distribution of social power and resources. Students from different social backgrounds earn profits in the cultural market based on the unequal cultural capital they inherit. In China, the implementation of the Plan reflects that the majority of FGCS in China are rural students from poverty-stricken areas. Zeng (2019) also proved that China's FGCS usually come from families with lower socioeconomic status. Based on the theory of Bourdieu, children from lower socioeconomic status or rural families are at a disadvantage in the learning behavior.

Cultural mismatch theory supposes that when there is a notable disparity between the culture of an academic institution and the culture of a student's family, the student may encounter stress or disagreement that can influence his/her academic achievements as well as mental and physical well-being (Stephens et al., 2012). Therefore, this theory is often used to analyze the minoritized students and FGCS. The norms in FGCS do not match the norms prevailing in higher education, making them feel nervous and underutilize social support, which further influence their learning behavior and academic achievement (Chang et al., 2020). However, in the context of China, FGCS do not belong to ethnic minorities. The applicability of this mismatch is unknown. Previously, the findings of Chinese scholars on FGCS were partially similar to those of Western researchers. For instance, FGCS perform poorly in teacher-student interaction and interpersonal relationships (Guo et al., 2022). Also, FGCS are relatively disadvantaged in comprehensive capabilities, such as information technology. However, there were also a conclusion that there is no difference between FGCS and non-FGCS in some academic indicators, such as the number of failed courses, GPA rankings, and scholarship status (Guo, 2020). In addition, previous research on the academic help-seeking behavior of FGCS has mostly focused on traditional classrooms, lacking consideration for virtual environments. This study explores OAHS of FGCS in the Chinese context to fill the gap in this field of research, based on Bourdieu's capital theory and cultural mismatch theory.

2.2 Academic help-seeking behavior of first-generation college students

As a part of learning strategies, academic help-seeking (AHS) is regarded as an important self-regulated ability (Shim et al., 2013). The more students lack confidence, the more likely they are to feel threatened when seeking help (Kitsantas and Chow, 2007). Schwartz et al. (2017) hold that FGCS are less possible to seek academic help from professors or peers than non-FGCS. This is due to the fact that

FGCS and their parents often have limited expectations for higher education, focusing primarily on academic achievements. This narrow focus reduces teacher-student and peer interactions (Long and Wang, 2018). Meanwhile, Beattie and Thiele (2016) found that FGCS are less satisfied with interactions, as they often have low expectations for the support that faculty and administrators can provide. Even, some FGCS may not be aware of the help that colleges can offer (Kim and Sax, 2009). Zhou (2016) research also supported this opinion, that students tend to underestimate or even avoid seeking academic help when they believe it is unhelpful or fear being judged by others. Above studies have indicated that FGCS have unusual AHS patterns because of their unfamiliarity with higher education resources and lack of confidence. With the prosperity of Internet technology, a new kind of AHS is raised, called online academic help-seeking (OAHS). OAHS can be divided into three types, information searching, informal query and formal query (Cheng and Tsai, 2011). It remains to be verified whether the characteristics exhibited by FGCS in traditional environments are applicable to online environments.

In the past decade, there has been a lack of discourse on OAHS within a specific group, especially a group classified based on familial dimension. In fact, family has a significant impact on students' performance in school, even greater than school (Coleman, 1968). As families of different classes have different training models for children, accordingly children have different views on the world and behaviors when they grow up (Lewis, 2004). Therefore, it is necessary to further explore academic help-seeking behavior for FGCS in online environments.

2.3 Internet and information technology usage of first-generation college students

Similar to AHS behavior, FGCS also show distinct behaviors in the use of the Internet and information technology. Due to lower family economic capital and cultural capital, FGCS have less opportunity to use the Internet, computer and other technological device than non-FGCS (Sefton-Green and Soep, 2007). This lack of access may hinder the ability of FGCS to use the Internet for academic and personal purposes. Another related topic is digital literacy. Brooks and Pomerantz (2017) revealed that FGCS possess poorer digital literacy compared to peers, such as creating and saving files. The lack of these basic computer skills puts FGCS at a disadvantage in academic resource management. Additionally, FGCS prefer to use the Internet for recreational purposes than for academic purposes (Jeong et al., 2021). Compared to the peers, FGCS are more likely to use social media such as Facebook (Chen and Bryer, 2012), but hesitant to use these platforms to connect with classmates and professors (Chávez et al., 2016). On the one hand, FGCS lack a guidance on how to use the Internet for academic purposes. Parents of FGCS with a weak cultural capital are not proficient in how to apply the Internet to learning. Mesch (2006) mentioned that more than 40% of parents report conflicts with their children over Internet usage. On the other hand, FGCS face special challenges related to cultural norms in higher education due to cultural mismatch (Stephens et al., 2012). It can be seen that network usage is related to the environment and support provided by family. It is unknown whether families play the same role when utilizing the Internet for learning.

2.4 Research questions

According to the research gap found in above literature review, the purpose of this paper was to explore the academic help-seeking experience of FGCS in the online environment. In order to further investigate whether the academic help-seeking behavior of FGCS after the advent of the Internet is the same as the traditional environment and whether it still conforms to previous research conclusions, current study proposed three research questions:

a. How do first-generation college students perceive online academic help-seeking?
b. What process do first-generation college students follow when seeking academic help online?
c. What family support do the first-generation college students have in online academic help-seeking?

3 Method

3.1 Research design and data collection

The current research employed semi-structured interviews to collect data and thematic analysis to process data. A semi-structured interview could maximize the diversity of data (Sayrs, 1998). Through the narratives of interviewees, the authors were able to understand participants' attitude and mindset, which is not available in other research methods (Babchuk, 2016). Thematic analysis is flexible and easy to use, allowing authors to flexibly choose theoretical frameworks (Braun and Clarke, 2012). Through the flexibility, authors could extract potential motivations and opinions expressed by participants based on the interview contents, which precisely help authors solve research questions. For solving research questions efficiently, purposive sampling was used to recruit interviewees. The authors invited higher education practitioners to contact college students. Inclusion criteria were: 1) Current college students aged 18 and above; 2) First generation college students from families; 3) Have experience in using the Internet for academic help-seeking. After referring to literature, the author formulated interview questions based on research questions in order to align them with the research objectives. There were three parts with a total of 12 items. The focus of the interview questions is on the participants' views and experiences on their OAHS, including challenges, coping strategies, and the role of the family in this process. This study followed ethical requirements. All interviewees voluntarily participated in this study and were informed in advance of the research purpose. Before conducting an interview, it was necessary to obtain the oral consent. Each interview was conducted for no less than 20 minutes. Further probing was conducted by the first author to capture more details during the interview.

3.2 Participants

Fifty-eight volunteers were interviewed via one-to-one online voice call. The demographic information of participants is shown in Table 1. Due to the fact that among the FGCS contacted by the authors,

TABLE 1 Demographic information of participants.

Demographics	Number (*n*)	Percentage (%)
Gender		
Male	13	22%
Female	45	78%
Classification		
Freshman	34	59%
Sophomore	19	33%
Junior	2	3%
Senior	3	5%
Major		
Humanities & Arts & Social Sciences	3	5%
Science & Engineering	48	83%
Finance & Economy & Accounting	7	12%

female was more willing to share their own seeking-help situation and introduced more friends to participate in interviews, the gender balance of the research sample has not been achieved. Furthermore, according to the data of Ministry of Education of the People's Republic of China (2021), the number of female undergraduates in regular Higher-educational institutions (53.7%) is higher than that of male. Thus, there were more female than male participating in this study. After interviews, each participant was assigned a number, being mentioned in the analysis section instead of name.

3.3 Data analysis

The thematic analysis used in this study strictly followed the six steps developed by Braun and Clarke (2006, 2012), which are widely used for analyzing qualitative data. Authors manually transcribed all interviews to ensure accurate capture of the facts and significance of the contents (Mirhosseini, 2020). The first author and second author jointly completed data analysis to ensure the reliability and validity of developed themes (Herzog et al., 2019). Details of data processing are shown in the Table 2. The authors did generous work in the early stages of data processing, including repeatedly familiarizing themselves with the data, systematically coding, and then organizing codes based on similarity, classifying codes into larger categories, forming a hierarchical structure of coding. Unlike quantitative research, the correlation between various themes and research questions, as well as the interrelationships between main themes are emphasized in thematic analysis. Thus, in the findings section, the final determined themes were prioritized for display, rather than the initial content of open coding.

4 Findings

Interview contents have been reorganized into three main themes and seven subthemes as shown in Table 3. The first theme presents interviewees' attitudes towards OAHS, the second theme describes the process of OAHS, along with the third theme shows the role of family in OAHS.

4.1 Theme 1—decision-making and behavior choices

Participants shared their positive attitude towards OAHS and various reasons for relying on OAHS. For example, convenience and comprehensiveness were the main driving factors. They advocated OAHS precisely because the cost of using the Internet for help-seeking is lower than traditional face-to-face help. The cost here does not refer to money, but more to intangible costs such as time, human capital and psychological pressure. As for behavior choices, most participants preferred information searching over formal or informal queries, as either form of query involves interaction. The sub-themes are discussed as follows:

4.1.1 Convenience

This theme became evident as majority of the participants (95%) use the Internet for academic help-seeking driven by convenience. When asked about the reasons for using the Internet for help, the term 'convenience' has been mentioned many times. The anytime, anywhere availability and low cost of the Internet made FGCS think OAHS is convenient. This is closely related to the rapid development of the Internet in China, especially after the Covid-19, where the Internet has become more popular in education. Participants also regarded OAHS as a positive behavior that is helpful for the learning ability improvement. For example, OAHS can not only give answers to specific questions, but also sometimes show unexpected contents, achieving the effect of broadening students' horizons without intentional learning. Compared with traditional face-to-face help-seeking, participants believed that using the Internet for help is more comprehensive, fast, and simple.

> *"Self-seeking information online not have too many limitations, which has not only the contents I want to know, but also the relevant knowledge to help me understand. Sometimes I could see points that teacher didn't talk about in class, which is unexpected and positive."* (Respondent No. 51, a first-year female student majoring in Finance & Economy & Accounting)

TABLE 2 Thematic analysis process.

Steps	Procedures	Details
1	Familiarizing with data	The first author conducted all interviews and recorded content in details during the process. After the interview, audio and minutes were shared with the second author
2	Coding	After listening to the voice recording, first author and second author organized the contents and used Excel to generate codes
3	Searching for themes	The interviews generated over twenty preliminary codes, and then ultimately were integrated into eight sub-themes
4	Reviewing themes	To ensure credibility and reliability, the technique of peer-debriefing was utilized. Then, the initial themes with similarity were combined as one theme. Three themes were discovered
5	Naming themes	The peer debriefing or member check technique was used to validate the interpretations of certain codes and quotations. Authors jointly discussed the definition and accuracy of themes
6	Framing the report	First author decided to how to present themes and did the writing

TABLE 3 Three themes.

Themes	Sub-themes
Decision-making and behavior choices	Convenience; Involuntary of interactive help-seeking
The process of OAHS	Frequency; Search engine and social media; Problem solving and alternative
The role of family in OAHS	Support from family; Parents' ignorance

Among three types of OAHS, information searching is the most popular. Participants unanimously agreed that information searching is convenient because it is not limited by time and location. Thirteen participants believed that results of information searching were more diverse than formal or informal queries. Participants also reported depending on themselves for information searching, as the process is typically one-way, that is extremely friendly for shy or introverted students. Eighteen participants accepted that even where they seek assistance and advice from others, they have to do web searches by themselves firstly. Narratives of a participant are:

"One-way act is particularly friendly to me, who always have questions and want to get help from others but am unwilling to take the initiative to interact with others." (Participant No. 32, a first-year female student majoring in Science & Engineering)

4.1.2 Involuntary of interactive help-seeking

Although students advocated information searching, it did not mean they have not benefited from interactive help-seeking such as formal query and informal query. Many participants mentioned that they have got help from online channels through interaction with others. However, this kind of help-seeking is not willingly as it carries a psychological burden. This psychological burden is mainly caused by the fact that interviewees were reluctant to interact with others because of shyness or lack of communication skills or the drive for self-reliance, but have to seek help from others. Moreover, participants preferred to interact with classmates and peers over teachers and experts in situations where they had to communicate and interact with others for help. Some participants had this to say:

If it is a problem that can be solved on my own, I will try my best to search for information without bothering others. (Participant No. 46, a graduated female student majoring in Science & Engineering)

"Compared to teachers, it's easier for me to seek help from peers, because their situation is similar to mine. My classmates can also inspire me with more ideas." (Participant No. 56, a graduated male student majoring in Science & Engineering)

4.2 Theme 2—the process of online academic help-seeking

When it came to the process of OAHS, although each participant described different contents in their own word order organization, it basically included the following parts after integration: frequency, channels, and challenges of using the Internet to seek academic help. The sub-themes are discussed as follows:

4.2.1 Frequency

Despite believing that OAHS is convenient, participants did not report the tendency to use the Internet every day or whenever encountering academic problems. Twenty-seven of them explained that not every course requires Internet-based academic assistance, and they only turn to the Internet in specific courses, especially professional courses. The main criterion for deciding whether to use the Internet for academic help is the level of difficulty they suffer in the course. Some of the participants had the following to say:

"Online resources can supplement course content and facilitate my understanding. For example, there are some academic terms that I did not know what they are because I did not often use them in my daily life, and no one mentioned them at home. In class, my teacher's explanation was not enough to make me fully understand. The Internet can serve as a great supplementary resource, but it is not my main learning channel." (Participant No. 46, a graduated female student majoring in Science & Engineering)

"I only use the Internet in given courses, such as professional courses or courses with great difficulty. If I always use the Internet to

complete my homework, I will become dependent on it." (Participant No.29, a first-year female student majoring in Science & Engineering)

4.2.2 Search engine and social media

When asked about how to use the Internet for academic help or what channels to seek help from, the most commonly mentioned learning software include search engines like Quark and Wikipedia, forums like Zhihu or Baidu Tieba, APPs like YOUDAO, video sites like Bilibili or MOOC. Except search engine, all other software is interactive, allowing students to not only browse information but also ask questions or give comments. Students usually use the software for academic help based on their personal needs and habits. Most interviewees prefer text over video, because text makes them to detect highlight promptly while video takes longer time. Consequently, non-interactive software that displaying text is the most routinely used. When it came to the way or channel knowing these learning software, twenty-seven participants rely on themselves. In particular, they used social media, such as Xiaohongshu, TikTok and WeChat. Twenty-three students appreciate that they were introduced by teachers and peers. Eight participants said they do not remember the details and may have overheard it unintentionally. It is worth noting that no one noted family or parents. Some of the participants had the following to say:

> "*I don't have my laptop now, so most of the Internet access is done on my phone. Sometimes when I play social media like Xiaohongshu and TikTok, I accidentally learn about some learning software.*" (Participant No. 52, a first-year female student majoring in Finance & Economy & Accounting)

> "*Recently, many learning bloggers have appeared in Xiaohongshu, most of whom are master's or doctoral students from the top 100 universities in the world. They often recommend learning websites or APPs, which I found very good after trying them out.*" (Participant No. 28, a first-year female student majoring in Science & Engineering)

4.2.3 Problem solving and alternative

A majority of interviewees ($n = 40$) expressed that content searching is the most challenging. Participants cited various reasons for this difficulty, including the struggle to select suitable keywords, and poor content relevance even when the correct keywords are employed. In addition to keywords, timeliness is also a factor. Ten of the participants vented that questions cannot be answered in a timely manner. Their narratives showed that the Internet is not omnipotent. Even, two participants declared OAHS is ineffective. When students were unable to obtain satisfaction via Internet, thirty-two of them chose to directly ask help from college professors in class, thirteen students preferred to ask peers, four students said they may rethink, and nine participants expressed renouncement. Some of the students had this to say:

> "*In most cases, there is no content after searching keywords. Although sometimes relevant contents can be found, the fit is poor and I cannot understand it well.*" (Participant No.55, a third-year male student majoring in Humanities & Arts & Social Sciences)

> "*Internet only wastes my time. It doesn't help me much when every time I use it to learn. So I always use it for entertainment and relaxation.*" (Participant No.57, a first-year female student majoring in Finance & Economy & Accounting)

4.3 Theme 3—the role of family in online academic help-seeking

Participants shared the role played by their parents by describing the support and obstacles they have received from their families in OAHS, the helplessness and difficulties they encountered during the process of OAHS, and their expectations for their parents. The parents of FGCS themselves have not experienced higher education and are unaware of how to use the Internet for learning. Thus, the difficulties encountered by FGCS and the obstacles caused by their family were usually caused by parents' lack of understanding of online learning. The sub-themes involved in this session as follows.

4.3.1 Support from family

In terms of family support, thirty-eight participants have received psychological encouragement from parents, and nine students have received material support by new e-learning equipment. However, participants unanimously agreed that their parents provide such support not due to a correctly understanding of OAHS, but rather blindly encourage everything related to academic achievements. Interestingly, some participants reported that their parents supported AHS but opposed OAHS. It seems that parents equated the classroom with learning and the Internet with entertainment, believing that children cannot acquire any knowledge through the Internet. Even two participants stated that their parents recklessly prevented the use of the Internet, rather than educating them on how to use the Internet for learning. This might be related to the overly open environment of the Internet, as one participant mentioned cyber fraud. When asked what kind of support they hoped to further receive, the responses of fifteen students were relatively vague, as they could not pinpoint what they needed. Lack of relevant training from a young age, such as Internet use, online learning skills, and help-seeking awareness, leads students to have no thoughts when suddenly asked about their needs. Surprisingly, sixteen respondents did not wish to receive any substantive help, but instead longed for greater autonomy and less intervention, claiming that family intervention and parents' self-proclaimed support had a negative impact on learning efficiency. Some of them said this:

> "*They don't care what way to use, it's all right as long as I finally learn knowledge. Every time I bring up something about my studies, my mother will buy it for me.*" (Participant No. 30, a first-year female student majoring in Science & Engineering)

> "*I wish my family can give me more freedom and not always restrict me, because they don't understand learning and only think based on their own inherent thinking.*" (Participant No. 58, a first-year female student majoring in Finance & Economy & Accounting)

> "*My parents are very conservative, so they always worry about me being cheated via Internet.*" (Participant No. 51, a first-year female student majoring in Finance & Economy & Accounting)

4.3.2 Parents' ignorance

Some parents had a neutral attitude towards OAHS. Children attributed the reason for this situation to parents' ignorance of online education. Ten participants accepted that their parents are not only indifferent to OAHS, but also do not care about all learning process related matters. Paradoxically, although parents do not care about children's learning process, they are extremely concerned about children's grades. Participants attached their parents' low level of engagement to a lack of comprehending how to use Internet for academic help effectively, as well as a lack of experience to seek help through Internet. Some of the participants shared their views:

> "*My parents think learning is my own business, so they don't care about details and only focus on grades. If my grades are not as good as they expected, they usually blame me without asking the reasons.*" (Participant No. 49, a first-year female student majoring in Finance & Economy & Accounting)

> "*My parents do not know much about my homework or professional knowledge, so they are not qualified to intervene.*" (Participant No. 47)

5 Discussion

In China, over two-thirds of college students are FGCS, making it essential to pay attention to the learning behavior and academic achievements of this group. Earlier studies on FGCS' academic help-seeking have primarily focused on traditional classrooms or formal help-seeking, lacking concern on the virtual environment. This study fills the gap and is of great significance for higher education practitioners, college students, and parents to understand the OAHS of Chinese FGCS. Among three types of OAHS, information searching is greatly popular. When using multiple types, information searching is the first choice, followed by informal query and finally formal query. This is similar to previous findings, where FGCS always do not seek help through teachers, but tend to use online resources instead (Tsai and Kim, 2012). The Internet as first choice of AHS not only reflects preferences, but also signifies FGCS' confidence in their ability to independently solve problems (Hicks and Wood, 2016). However, previous scholars did not categorize AHS into traditional offline context and online context. This study fills the gap, finding that the preferences of FGCS for three kinds of OAHS. On the one hand, students favor convenient, comprehensive, and easily accessible resources (Giblin and Stefaniak, 2020). Participants emphasized that their goal is to quickly solve current problems, rather than enrich knowledge. On the other hand, information searching is a self-reliant method. Participants have received limited educational support from families since childhood. As a result, they developed a strong sense of personal responsibility for their own learning and a need to rely on themselves to achieve academic success (Yee, 2016). Although FGCS participate in academic interactions, they are less likely to engage in high-quality interactions compared to continuing-generation students. This instinctive refusal leads to low quality of involuntary interactions. This is harmony with the characteristics of FGCS, who are at a disadvantage in interacting with others (Martinez et al., 2009). Among two query methods, FGCS prefer informal query, such as seeking help from peers. Unlike the United States, FGCS is not a

minority group in China, so they are not in a completely disadvantaged position in communication between classmates. Participants believed that they would not have too much psychological stress when communicating with people at the same level as themselves.

There is a correlation between family socioeconomic status and academic achievements (Conger and Donnellan, 2007). However, most of the Chinese FGCS come from rural areas and families with lower socioeconomic status (Zeng, 2019). Participants have limited familiarity with using the Internet for learning before college due to insufficient family support, a finding in line with former research (Redford and Mulvaney Hoyer, 2017). Although there is a large number of online resources for college students to use, involving not only answering specific questions, but also providing assistance in self-learning and college survival skills (Apuke and Iyendo, 2018), it does not play a role in improving learning ability and self-growth of FGCS. One of participants expressed that she knows there are many resources online but does not know how to utilize them. Limited assistance from families and long-term misunderstandings among parents about OAHS may be one of the reasons for this situation. An interesting phenomenon is that some parents of FGCS support AHS, but when it comes to the Internet, they hold opposing opinions. There is an article documented that parent involvement can compensate for the shortcomings of low socioeconomic status in children's education (Hoover-Dempsey and Sandler, 1997). In view of the fact that involvement is a dynamic variable, while socioeconomic status especially parental education remains static and unchanged (Walker et al., 2010). Unfortunately, current study found that parent involvement of FGCS in OAHS is inadequate. Firstly, parents of FGCS have poor capital investment in e-learning, with some students even without a laptop in the sophomore year. The lack of computer equipment greatly increases the inconvenience for college students to use online resources. Secondly, the educational level of the parents of FGCS does not allow them to have a deep understanding of the role of the Internet and online resources, leading to their bias towards OAHS. Finally, due to reasons such as lack of higher education or busy work, parents of FGCS only focus on academic performance and rarely participate in their children's learning process. The findings of current study are basically consistent with the cultural capital theory. Parents' lack of higher education leads to a relatively low level of family cultural capital, so the assistance provided by families for OAHS is also limited. Even, the support perceived by parents is seen as a hindrance by children.

The behavior FGCS exhibit also related to the non-adaptation higher education norms. Stephens et al. (2012) hold that the interdependent norms relied on by FGCS from a working class do not match the independent norms of the middle class commonly found in higher education. The cultural mismatch in the Chinese context is completely different from the previous research findings of Western scholars. China's education system adopts examination-oriented, which can objectively evaluate enrollment through exam scores, thereby reducing higher education inequality. However, it may also bring about new forms of educational inequality, making students who are already at a disadvantage even more disadvantaged during their university years (Hu and West, 2014). For instance, the teaching model under the leadership of examination-oriented system encourages individual learning rather than group cooperation. Especially in FGCS families, both parents and children overemphasize academic achievements and underestimate the learning process,

FIGURE 1
Cultural mismatch of FGCS in the context of China.
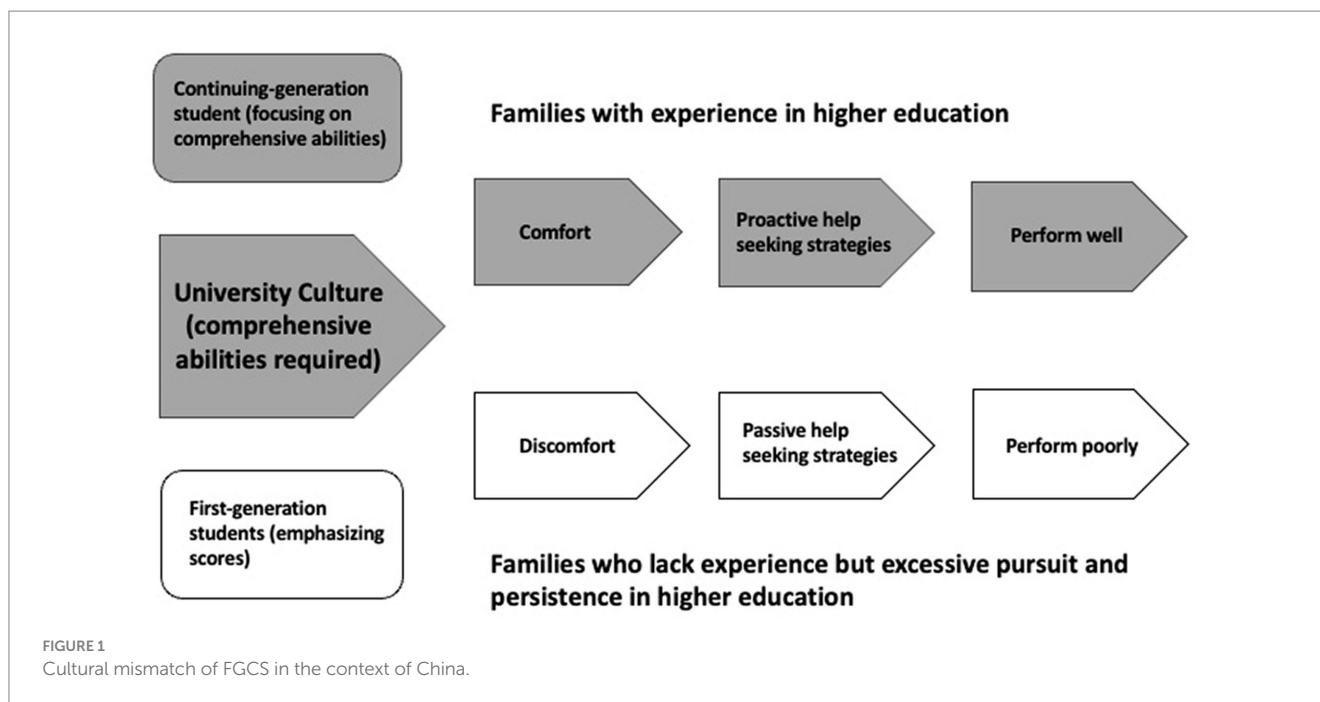
believing that scores represent everything, and neglecting the cultivation of other learning abilities (Yu and Han, 2018). Chinese students are accustomed to exam taking, cramming and passive learning, which do not require too much cooperation with others before college. And, FGCS have a strong sense of self-reliance, regarding seeking help as a sign of troubling others. However, AHS is a self-regulated active learning strategy, which require communication with others. Therefore, FGCS cannot quickly adapt to this transformation after entering university (Guo et al., 2022). Therefore, based on the results of this study, the cultural mismatch in the context of China of FGCS can be seen in Figure 1.

6 Conclusions and recommendations

This study reveals the cultural mismatch in the Chinese context by explaining OAHS behavior of FGCS. Although the behavior of non-FGCS has not been discussed and taken into account, these findings at least aid professors and university practitioners in identifying the help-seeking preference of FGCS when accessing online academic resources, enabling them to provide more tailored guidance to assist FGCS in adapting to higher education quickly. Specifically, more online resources can be integrated into the classroom and learning software related to course can be shared, avoiding students from spending a lot of time but not getting useful information. Meanwhile, professors can also incorporate suitable online help resources into after-school assignments to enhance FGCS' online self-learning abilities and equip them with effective strategies for seeking help. Future research can compare the behavior of FGCS and non-FGCS, further confirming the characteristics of online academic help-seeking behavior of FGCS by comparative analysis.

As believed by current results, FGCS families lack the cultivation of comprehensive abilities before college stage, leading to weak interaction skills among children after entering university.

Therefore, in addition to catering to the preferences of FGCS for seeking help, university practitioners should also consider how to guide FGCS to actively engage in interactive help-seeking in the online environment. For example, setting up internal academic forums with an anonymous optional model. Now, numerous universities in China have their own internal forums, but the student participation rate is unsatisfactory due to high transparency and strict management. The presence of such forums seems like decoration outweighs practicality. Some universities have created groups on public forums, such as Baidu Tieba and Renren, but these forums are rarely utilized for academic communication and are instead viewed as entertainment focused. In this case, the forum operated by the university itself is easy to manage, only granting internal members permission. Anonymous allows students who are shy or disinclined to disclose identities to share thoughts, and small-scale disclosure helps to maintain the quality of the discussion contents and mitigates negative comments within an anonymous environment.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving humans were approved by Lingnan University Application for Ethical Review of a Research Project Involving Human Participants by a Taught Postgraduate Student. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

FY: Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Validation, Writing – original draft, Writing – review & editing. JN: Methodology, Resources, Validation, Writing – review & editing.

Funding

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Supplementary material

The Supplementary material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/feduc.2023.1333824/full#supplementary-material

References

Apuke, O. D., and Iyendo, T. O. (2018). University students' usage of the internet resources for research and learning: forms of access and perceptions of utility. *Heliyon* 4:e01052. doi: 10.1016/j.heliyon.2018.e01052

Babchuk, W. A. (2016). Book review: qualitative research: a guide to design and implementation (4th ed.), by S. B. Merriam and E. J. Tisdell. *Adult Educ. Q.* 67, 71–73. doi: 10.1177/0741713616671930

Bao, W. (2013). College choice of rural first-generation student. *Educ. Res. Month.* 1, 3–11.

Bao, W., and Chen, Y. X. (2015). The impact of financial support on the academic development of the first generation of rural college students. *Peking Univ. Edu. Rev.* 13, 80–96.

Beattie, I. R., and Thiele, M. (2016). Connecting in class? college class size and inequality in academic social capital. J. High. Educ. 87:332–362.

Bourdieu, P. (2011). "The forms of capital" in *Handbook of Theory and Research for the Sociology of Education*. ed. J. Richardson (Westport, CT: Greenwood) The forms of capital. (1986). Cultural theory: An anthology, 1(81–93), 949.

Braun, V., and Clarke, V. (2006). Using thematic analysis in psychology. *Qual. Res. Psychol.* 3, 77–101. doi: 10.1191/1478088706qp063oa

Braun, V., and Clarke, V. (2012). "Thematic analysis" in *APA handbook of research methods in psychology, Vol 2: Research designs: Quantitative, qualitative, neuropsychological, and biological.* eds. H. Cooper, M. N. Coutanche, L. M. McMullen, A. T. Panter, D. Rindskopf and K. J. Sher (Washington, DC: American Psychological Association), 57–71.

Brooks, D., and Pomerantz, J. (2017). *ECAR study of undergraduate students and information technology*. EDUCAUSE Center for Analysis and Research.

Chang, J., Wang, S. W., Mancini, C., McGrath-Mahrer, B., and Orama de Jesus, S. (2020). The complexity of cultural mismatch in higher education: norms affecting first-generation college students' coping and help-seeking behaviors. *Cult. Divers. Ethn. Minor. Psychol.* 26, 280–294. doi: 10.1037/cdp0000311

Chávez, J., Montaño, R., and Barrera, R. (2016). Structure and content of messages in an online environment: an approach from participation. *Comput. Hum. Behav.* 54, 560–568. doi: 10.1016/j.chb.2015.08.046

Chen, B., and Bryer, T. (2012). Investigating instructional strategies for using social media in formal and informal learning. *Int. Rev. Res. Open Distance Learn.* 13:87. doi: 10.19173/irrodl.v13i1.1027

Cheng, K.-H., and Tsai, C.-C. (2011). An investigation of Taiwan university students' perceptions of online academic help seeking, and their web-based learning self-efficacy. *Internet High. Educ.* 14, 150–157. doi: 10.1016/j.iheduc.2011.04.002

Coleman, J. S. (1968). Equality of educational opportunity. *Equity Excell. Educ.* 6, 19–28. doi: 10.1080/0020486680060504

Conger, R. D., and Donnellan, M. B. (2007). An interactionist perspective on the socioeconomic context of human development. *Annu. Rev. Psychol.* 58, 175–199. doi: 10.1146/annurev.psych.58.110405.085551

Cowan Pitre, C., and Pitre, P. (2009). Increasing underrepresented high school students' college transitions and achievements. *NASSP Bull.* 93, 96–110. doi: 10.1177/0192636509340691

Dong, Y. G. (2015). Breaking through the constraints of class - a qualitative study on the high academic achievements of 10 rural children born in the 1980s. *China Youth Stud.* 3, 72–76.

Du, B., Yu, T., Bai, Y., and Ling, N. (2020). Research on the difference between the first-generation and non-first-generation college Students' learning ability. *High. Agri. Edu.* 2, 42–48.

Dumais, S. A., and Ward, A. (2010). Cultural capital and first-generation college success. *Poetics* 38, 245–265. doi: 10.1016/j.poetic.2009.11.011

Falcon, L. (2015). Breaking down barriers: first-generation college students and college success | the league for innovation in the community college. Available at: https://www.league.org/innovation-showcase/breaking-down-barriers-first-generation-college-students-and-college-success

Giblin, J., and Stefaniak, J. (2020). Examining decision-making processes and heuristics in academic help-seeking and instructional environments. *TechTrends* 65, 101–110. doi: 10.1007/s11528-020-00556-7

Guo, J. (2020). Study on the survey-based undergraduate performance of first-generation college students. china higher education research, 1–19. doi: 10.16298/j.cnki.1004-3667.2020.06.04

Guo, J., Ding, Q., and Fan, M. (2022). Triggering motivation: a latent mechanism study for online self-regulated learning of first-generation college students. *Fudan Educ. Forum* 20:1.

Herzog, C., Handke, C., and Hitters, E. (2019). *Analyzing talk and text II: Thematic analysis*, The Palgrave Handbook of Methods for Media Policy Research: BulckH. Van den, M. Puppis, K. Donders and AudenhoveL. Van, pp. 385–401. Palgrave Macmillan Cham.

Hicks, T., and Wood, J. L. (2016). A meta-synthesis of academic and social characteristic studies. *J. Multicult. Educ.* 10, 107–123. doi: 10.1108/jme-01-2016-0018

Hoover-Dempsey, K. V., and Sandler, H. M. (1997). Why do parents become involved in their children's education? *Rev. Educ. Res.* 67, 3–42. doi: 10.3102/00346543067001003

Hu, B., and West, A. (2014). Exam-oriented education and implementation of education policy for migrant children in urban China. *Educ. Stud.* 41, 249–267. doi: 10.1080/03055698.2014.977780

Jeong, H. J., Kim, S., and Lee, J. (2021). Mental health, life satisfaction, supportive parent communication, and help-seeking sources in the wake of covid-19: first-generation college students (FGCS) *vs.* non-first-generation college students (non-FGCS). *J. Coll. Stud. Psychother.* 37, 71–86. doi: 10.1080/87568225.2021.1906189

Karabenick, S. A., and Knapp, J. R. (1988). Help seeking and the need for academic assistance. *J. Educ. Psychol.* 80, 406–408. doi: 10.1037/0022-0663.80.3.406

Kim, Y. K., and Sax, L. J. (2009). Student–faculty interaction in research universities: differences by student gender, race, social class, and first-generation status. Res High Educ. 50, 437–459.

Kitsantas, A., and Chow, A. (2007). College students' perceived threat and preference for seeking help in traditional, distributed, and distance learning environments. *Comput. Educ.* 48, 383–395. doi: 10.1016/j.compedu.2005.01.008

Lewis, A. E. (2004). Unequal childhoods: class, race, and family life. *J. Marriage Fam.* 66, 840–841. doi: 10.1111/j.0022-2445.2004.0056c.x

Long, Y. H., and Wang, Y. S. (2018). The impact of teacher-student interaction on learning gains: an analysis of the differences between first generation and non-first-generation college students. *High. Educ. Explor.* 12, 32–39.

Lu, G. S., and Hu, W. J. (2015). Interaction between teachers and students and the development of college Students' abilities: an analysis of the differences between first generation and non-first-generation college students. *Res. High. Educ. Engg.* 5, 51–58.

Martinez, J. A., Sher, K. J., Krull, J. L., and Wood, P. K. (2009). Blue-collar scholars? mediators and moderators of university attrition in first-generation college students. Journal of college student development. 50, 87

Mei, W. H., and Yu, C. X. (2022). Research themes and future prospects of first-generation college students studies: a bibliometric analysis based on WoS database during 2001-2020. *J. Zhejiang Univ.*

Mesch, G. S. (2006). Family characteristics and intergenerational conflicts over the internet. *Inf. Commun. Soc.* 9, 473–495. doi: 10.1080/13691180600858705

Ministry of Education of the People's Republic of China (2021). Number of female students of schools by type and level – Ministry of Education of the People's republic of China. Available at: http://en.moe.gov.cn/documents/statistics/2020/national/202108/t20210831_556360.html

Mirhosseini, S. A. (2020). *Doing qualitative research in language education*. Springer Nature, Berlin.

Padron, E. J. (1992). The challenge of first-generation college students: a Miami-dade perspective. *New Direct. Comm. Colleg.* 1992, 71–80. doi: 10.1002/cc.36819928009

Putnam, R. D., Leonardi, R., and Nanetti, R. Y. (1994) *Making democracy work: Civic traditions in modern Italy*. Princeton, NJ: Princeton University Press.

Redford, J., and Mulvaney Hoyer, K.. (2017). *First generation and continuing-generation college students: A comparison of high school and postsecondary experiences*. United States Department of Education. Washington, DC

Sayrs, L. (1998). Interviews: an introduction to qualitative research interviewing Steinar Kvale. Thousand oaks, CA: sage, 1996. *Am. J. Eval.* 19, 267–270. doi: 10.1016/s1098-2140(99)80208-2

Schofer, E., and Meyer, J. W. (2005). The worldwide expansion of higher education in the twentieth century. *Am. Sociol. Rev.* 70, 898–920. doi: 10.1177/000312240507000602

Schwartz, S. E., Kanchewa, S. S., Rhodes, J. E., Gowdy, G., Stark, A. M., Horn, J. P., et al. (2017). "I'm having a little struggle with this, can you help me out?": examining impacts and processes of a social capital intervention for first-generation college students. *Am. J. Community Psychol.* 61, 166–178. doi: 10.1002/ajcp.12206

Sefton-Green, J., and Soep, E. (2007) in *Creative media cultures: Making and learning beyond the school*. ed. L. Bresler (Dordrecht: International Handbook of Research in Arts Education, Springer), 835–856.

Shim, S. S., Kiefer, S. M., and Wang, C. (2013). Help seeking among peers: the role of goal structure and peer climate. *J. Educ. Res.* 106, 290–300. doi: 10.1080/00220671.2012.692733

Stephens, N. M., Fryberg, S. A., Markus, H. R., Johnson, C. S., and Covarrubias, R. (2012). Unseen disadvantage: how American universities' focus on independence undermines the academic performance of first-generation college students. *J. Pers. Soc. Psychol.* 102, 1178–1197. doi: 10.1037/a0027143

Tsai, T., and Kim, K. (2012). First-generation college students' information seeking: their personality traits and source use behavior in coursework-related context. *Proc. Am. Soc. Inf. Sci. Technol.* 49, 1–5. doi: 10.1002/meet.14504901259

U.S. Department of Education (2020). TRIO home page. Available at: http://www.ed.gov/about/offices/list/ope/trio/index.html

Walker, J., Shenker, S., and Hoover-Dempsey, K. (2010). Why do parents become involved in their children's education? Implications for school counselors. *Prof. Sch. Couns.* 14, 27–41. doi: 10.5330/prsc.14.1.768th8v77571hm7r

Yee, A. (2016). The unwritten rules of engagement: social class differences in undergraduates' academic strategies. *J. High. Educ.* 87, 831–858. doi: 10.1353/jhe.2016.0031

Yu, X. L., and Han, Y. (2018). How to become a "Noble child" in a poor family: a class breakthrough from the perspective of cultural capital. *J. High. Educ.* 39, 8–16.

Zeng, D. X. (2019). A study on the family experience of the first-generation college students from rural poor families. *China Youth Stud.* 7, 38–43.

Zhang, H. F., Zhao, L., and Guo, F. (2016). A portrait of first-generation college students in China: an analysis based on the China college student survey. *Tsinghua J. Educ.* 6, 72–78.

Zhao, H. X., and Fan, J. X. (2014). Effects and countermeasures of the cultural Capital of Family on Students'Achievement——based on the research of the junior students of a middle school in Shihezi. *Journal of Bingtuan Education Institute*

Zhou, P. S. (2016). A study on the characteristics and influencing factors of Tibetan Adolescents' academic help seeking. *J. Inner Mongolia Normal Univ.* 2, 99–102.