UNIVERSAL WISER
PUBLISHER

Research Article

The Role of Social Support and Positive Psychological Capital in Chinese FGCSs' Engagement in Higher Education: A Strengths-Based Perspective

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Abstract: The study shifts the research focus of First-Generation College Students (FGCSs) away from a deficit-based model towards a strengths-based perspective to examine those FGCSs who can successfully integrate into higher education. Specifically, twelve FGCSs in China were interviewed. The findings revealed that FGCSs can leverage interpersonal resources (i.e., social support) as well as intrapersonal resources (i.e., positive psychological capital) to adapt to and excel in college life and study. These findings have important implications for promoting a more comprehensive understanding of FGCSs and encouraging their greater sense of empowerment and confidence.

Keywords: a strengths-based perspective, first-generation college students, positive psychological capital, student engagement, social support

1. Introduction

Since the late 1990s, higher education in China has rapidly expanded in scale with the admission rate of the college entrance examination soaring (Liu & Liu, 2017). This has resulted in a shift from an elite education system to one that focuses on mass education and talent cultivation (Wang, 2020). There is a trend that the undergraduate population in China's higher education system is becoming more diverse and heterogeneous, particularly with a significant surge in the number of first-generation college students (FGCSs). These students come from families where neither parent has attended college or received a postsecondary degree (Inkelas et al., 2007; NCES, 1998). According to the China College Student Survey (CCSS) in 2020, the proportion of FGCSs in China has been over 70% (Wang, 2020).

The large group of FGCSs has long been paid close attention to and considered as disadvantaged compared with non-first-generation college students (NFGCS) in studies related to equity issues in access to higher education. Although the starting point for entry to higher education is essentially fair for FGCSs (Martin, 2020), previous empirical research based on Cultural Mismatch Theory (CMT) has shown that these students tend to struggle with university learning experiences due to the lack of pre-endowed resources and information about higher education from family. This leads to greater challenges, such as psychological adjustment (Li et al., 2022), limited extracurricular participation in high-impact educational practices (Conefrey, 2021), and the use of individual learning strategies instead of collaborative methods (Yee, 2016). As a result, FGCSs tend to have a higher withdrawal rate, resulting in an expanding gap in college

graduation rates (Radunzel, 2021). However, it is criticized that the intergroup discrepancies between FGCSs and NFGCS were overemphasized (Tian & Yu, 2021). More attention thus should be shifted to the internal characteristics of FGCSs themselves.

When concentrating on FGCSs themselves, there has been a growing recognition of the importance of redirecting research attention away from a deficit-based model, which accentuates FGCSs' cultural and social capital shortcomings in preparing for higher education, leading them into disadvantageous positions. Instead, there is an increasing emphasis on adopting a strengths-based perspective when concentrating on FGCSs themselves (Hu & Kang, 2019; Mitchall & Jaeger, 2018; Xiong, 2016). It is argued that despite the limited knowledge or experience of higher education that FGCSs receive from families, their families continue to play a vital role in their successful college experience through supportive behaviors in the form of emotional support and economic support (Martin et al., 2020). Additionally, FGCSs have the opportunity to acquire the information from college through various sources, such as teachers or peers, that may compensate for the cultural capital they may have missed within their families (Wu et al., 2023). Further, it is worth noticing that FGCSs possess unique characteristics such as self-responsibility (Moschetti & Hudley, 2015) and resilience (Azmitia et al., 2018), which are essential components of positive psychological capital. Crucially, our article adopts a perspective that views resilience as an active process involving the intentional utilization of internal attributes, the development of strengths, and the cultivation of connections to access external resources, in line with the definition of resilience by Chandler et al. (2019). These characteristics can help FGCSs gradually narrow the gap with NFGCS in terms of academic ability development and overcoming structural limitations stemming from class background and intergenerational cycle.

Additionally, in comparison to first-generation college students (FGCSs) in other countries, such as the United States, who confront significant academic challenges emerging from various social factors like race, immigration, and poverty, Chinese FGCSs are anticipated to face fewer absolute disadvantages in their academic pursuits. In fact, it is believed that they might even be able to catch up with non-first-generation college students (NFGCSs) in China (Xiong, 2016). This is possible due to the social and cultural context in which China's College Entrance Examination provides opportunities for social mobility, thereby enabling catch-up efforts. Furthermore, traditional Chinese cultural beliefs emphasize the importance of excelling in academic studies as it can lead to official career prospects and improve the family's reputation (Fang & Lu, 2022). Thus it is often the case that FGCSs are highly appreciated and economically sponsored not only by their extended family but also by social organizations. However, little is known about whether such social support FGCSs receive and their personal characteristics play a role in their integration and engagement into the field of higher education in China and if so how. Therefore, more attempts should be made to explore in detail, particularly to focus on those FGCSs who successfully navigate through multiple rounds of elimination and excel in higher education (Li, 2018).

In order to address the existing research gap, the current research aims to gain a better understanding of the influence of social support and positive psychological capital on FGCSs' engagement in college with in-depth interviews. Specifically, the following research questions were addressed:

(1) What forms of social support assisted FGCSs to integrate and engage into higher education and how?

(2) How did FGCSs' positive psychological capital facilitate their engagement in colleges?

2. Literature review

2.1 *FGCSs' engagement in higher education*

Student engagement (SE), also called school engagement or learning engagement, refers to students' participation in educationally purposeful activities, especially academic activities (Astin, 1984). The construct of student engagement has expanded since 1984. Any cognitive, emotional and behavioral engagement in study can be considered as SE (Fredricks et al., 2004). According to the National Survey of Student Engagement (NSSE) in 2000, which is influential in assessing college students' engagement in the U.S., student learning and success are related to the amount of time and effort invested in educational activities and this can be influenced by postsecondary institutions (Kuh, 2001). While in the China College Student Survey (CCSS) which tracks the student data in the context of China, Shi and Wang (2018) claimed that college students' learning engagement is not confined to classroom learning or book learning in a narrow

sense, but involves more about social learning, emotional learning, and other formal and informal learning in and out of class.

SE is considered to be an important index of students' retention and achievement in colleges (Kahu & Nelson, 2018) and it has become a crucial focus of dropout interventions as well as student success and retention enhancement (Waldrop et al., 2019). With a higher withdrawal rate than other student groups (Radunzel, 2021), it is particularly important to examine SE among FGCSs. Although their experiences are often overlooked, successful engagement strategies for FGCS could be generalized to wider contexts. Research on FGCS integration and engagement in higher education in China is particularly scarce, as it lags behind the US to enter the popularization stage of higher education by half a century (Fang & Lu, 2022). Therefore, there is a pressing need to investigate how FGCS in China integrate and engage in higher education.

2.2 *Social support and FGCSs' engagement in higher education*

Among the studies identifying the contributing factors that influence SE, the role of social support has attracted considerable attention from researchers. Social support (SS) was defined as an individual gaining understanding, support and resources from social relations, such as those with family, friends, teachers, classmates, and relatives (Wang et al., 1999). Extant studies have noted that as forms of SS, family support (Jia et al., 2020; McCulloh, 2022), teacher support (Liu et al., 2023; Zhang & Meng, 2022), and peer support (Plaskett et al., 2018; Van Ryzin et al., 2020) can contribute to SE by providing economic support, emotional comfort, academic guidance or information sharing.

In particular, previous studies have targeted some relatively disadvantaged students who may seek help from social support systems to assist their integration and adaptation into college life and studies, including rural left-behind students (Wang et al., 2017), migrant children (Tan et al., 2021), and disabled students (Carter et al., 2016). However, FGCSs who often face challenges and barriers due to limited cultural capital or resources from less-educated parents or low-income families (Tate et al., 2015) that may urgently need SS, are under-researched and underrepresented in studies on SE. Therefore, it is essential to give more attention to the role of social support in the academic success of FGCSs, as research indicates that SS can positively influence student academic outcomes, encourage stronger commitments, and increase their eagerness to invest more efforts (Roksa & Kinsley, 2019).

2.3 *Positive psychological capital and FGCSs' engagement in higher education*

Positive psychological capital (PPC) is a key concept in positive psychology, defined as a state of mind that promotes self -growth and the development of the mind and body (Luthans & Youssef, 2004). It is a multidimensional structure consisting of four competencies: (a) optimism that refers to the degree of feeling to overcome challenges with constructive approach; (b) resolving to fulfill aspirations, i.e., hope; (c) self-belief to achieve goals with own efforts, namely, self-efficacy; and (d) the capacity to endure adversity and survive under pressure, viz., resilience (Luthans et al., 2004).

It is believed that SE includes not only a high degree of involvement in academic activities, but also an individual's positive attitudes towards academic tasks and schools. Additionally, it involves a substantial investment in cognitive strategies, along with the utilization of psychological and social resources, including interactions with peers and teachers (Fredricks et al., 2004). Consistently, Newman et al. (2014) argued that mere behavioral participation of SE is insufficient, as there should be a deeper level of involvement, specifically psychological engagement. Thus, positive PPC is another important ingredient influencing SE (Hammill et al., 2022; You, 2016).

PPC can foster strengths and positive capacities that are beneficial for one's engagement in work and study. Research has shown that higher psychological capital is associated with lower academic burnout and better academic achievement while studying (Martínez et al., 2019). For example, Barratt and Duran (2021) surveyed 465 students and found that PPC was negatively related to learning burnout but positively to learning engagement. In You's (2016) study constructing a structural equation model with data collected from 490 college students, it is found that there was a significant positive correlation between psychological capital and students' learning engagement. These studies have consistently highlighted the positive impact of PPC on college students' learning engagement (Wang et al., 2021; Zhou & Mao, 2021). However, whether this also applies to the FGCSs remains relatively unknown. Hence, it is crucial to investigate whether FGCSs can leverage their personal resources of PPC to enhance their engagement in higher

education and how this can aid their development and promote academic success.

3. Research methodolgoy
3.1 *Methods and participants*

Grounded in a constructivist paradigm, recognizing the subjective nature of experiences and aiming to understand the unique perspectives of FGCSs, we adopted the semi-structured interview to examine the role of social support and positive psychological capital in Chinese FGCS' engagement in higher education. The participants in this study comprised 12 college students from different universities who were recruited in February 2023. The snowball sampling strategy (Dusek et al., 2015) was adopted, with the survey initially shared with several qualified FGCSs participants the authors knew, and each of those participants then introduced additional participants through their social network. The sample size was determined based on the principle of data saturation (Guest et al., 2006), where additional interviews cease to yield new information or insights. The demographics of the participants were shown in Table 1. All interviewees' identities were anonymized to protect their privacy. The research was approved by the Ethics in Human Research Committee of Education, G University (299-X5222196) and informed consent was obtained.

Table 1. Demographic characteristics of interviewees

	Gender	Household registration	Major	Year of Study
1	Female	Urban	Liberal arts	the fourth year
2	Female	Rural	Science	the second year
3	Male	County	Liberal arts	the third year
4	Female	Rural	Liberal arts	the first year
5	Female	County	Liberal arts	the fourth year
6	Female	County	Liberal arts	the fourth year
7	Female	Rural	Liberal arts	the third year
8	Male	Urban	Science	the second year
9	Female	Rural	Liberal arts	the fourth year
10	Male	County	Science	the second year
11	Female	County	Science	the third year
12	Female	Rural	Liberal arts	the fourth year

3.2 *Data collection*

In order to understand the role of SS and PPC in FGCSs' adaptation to life and study in higher education, semi-structured interviews were used to explore FGCSs' engagement experiences in colleges (Kvale & Brinkmann, 2009). Specifically, the in-depth interviews were conducted in three steps. Firstly, interviewees were asked to give a general introduction about their relations with parents, friends, teachers, etc. They were then asked to recall and share a

memorable learning experience that was relevant to how they sought support from those around them, and to elaborate the details of that experience by answering pre-designed questions like "What's the source of support you received at that time?". Finally, they were asked open-ended questions, such as "In what aspect do you think the identity of FGCS and SS influence you to integrate into college?", to reflect on the influence of their experience. Each interview lasted between 30 and 60 minutes. The interview was audio-recorded with consent from the participants, which were then transcribed to text files.

3.3 *Data analysis*

The interview transcripts were thematically analyzed by coding via a combination of an inductive and deductive approach using NVivo 11 plus. At first, the interview texts were read carefully by the researchers to list out the recurring themes and subthemes identified and summarized based on the interpretations of the respondents' answers and some sub-dimensions of SS and PPC. Then all the transcript texts were coded line by line with the summarized themes and subthemes as guidelines. After that, the coded data were re-examined to figure out the commonalities and similarities of specific experiences among different respondents, which helped to reveal how FGCSs reflect on support from others and how they grow and seek engagement in colleges. Finally, the results were synthesized into tables with illustrative quotes selected and translated into English.

4. Results

Table 2 and Table 3 show the results of the main themes with examples of quotes. As can be seen from Table 2, when interviewees were asked about their relationships with parents, friends, teachers and classmates, family support and support from teachers and classmates were more frequently mentioned.

4.1 *Family support: emotional, economic and instrumental dimensions*

FGCSs admitted that their parents are rarely likely to provide any practical suggestions about their study due to the restriction of lower educational levels. However, they received emotional support from their parents. Most respondents who maintain a good relationship with parents reported that they would regularly call their parents and share what happens after leaving home and going to universities. In the face of parents who are the closet and most familiar people to them, they can voice their feelings, especially some negative emotions without reservation. For instance, one participant described how she prepared for an important exam and gained emotional support from parents:

> *After a mock exam, I almost broke down and called my parents for comfort. They spent over an hour consoling me and told me that passing the exam is like thousands of troops going through a single-step bridge, and that they did not require me to pass it on the first try. Their words helped to calm me down and lower my expectations for the exam result. Later, they rented a house near my school and stayed with me for a month before the exam. My father even took me to the exam site a day in advance, which made me feel more assured. Even though I still felt terrible afterwards, they continued to encourage me and told me that they believed in me. Luckily, I did eventually pass the exam.* (a senior student who has managed to pass the China civil service exam, from a county family)

In this example, the parents of the FGCS participant helped her to reduce stress when she prepared for the exam. They did this not only by patiently listening to her and comforting her with plain and simple reasoning, but also by providing her with company, encouragement, and trust. In this way, FGCSs are able to restore a peaceful mood and positive attitudes to be invested in college learning again.

Besides, some respondents mentioned their parents would spare no efforts to provide them with economic support. Generally speaking, most FGCSs' families are not well-off. However, they hold a firm aspiration in the power of education. In particular, when FGCSs are admitted into good universities, their parents feel immense pride and hope for their children's future development. Naturally, this stimulates them to be more willing to invest in their children's

education. As a result, FGCSs may also place greater importance on higher education and be more motivated to engage in college life and study. The following example from a participant highlighted how FGCSs' parents can provide crucial support:

My parents never ask me about my study, they just simply told me to "study hard". Even when I want to help with daily chores at home, they usually reply that it is not necessary and ask only if I have finished my schoolwork. Last term, when I told them I wanted to pursue graduate studies for an additional one or two years, they immediately supported my decision instead of urging me to find a job after graduation. They even assured me that I wouldn't have to worry about the cost of postgraduate education and encouraged me to focus on finishing my studies. I was deeply touched by their support and became even more determined to study hard. (a senior student who applied for a master program successfully, from an urban family)

In addition, it was surprising to find that some FGCSs received support from their siblings who precede them to college. For instance, a respondent mentioned how he asked his elder brother for reference:

Although the college my elder brother attends was not better than mine, he shared his feelings and harvests of taking part in academic competitions, which are also useful to me. And he would lead me to join in competitions like the provincial Innovation and entrepreneurship program that allow for cross-school cooperation. (a freshman student who is conscious of participating in academic competition, from a county family)

Moreover, some admitted that they received support from their extended relatives, especially those of higher education degrees, such as asking suggestions for choosing majors after the college entrance examination. Just as another participant recalled and portrayed how her father tried to help her make a careful decision about changing major:

At the end of the second semester of my freshman year, I told my parents that I wanted to change into the finance specialty. My father searched for relevant information online, and then he even drove to another city to ask my aunt for suggestions. My aunt works as an accountant that has nothing related, but she is the one who has the highest educational background among our relatives. That's why my father mostly believes in what she says. Finally, she helped convince my father to agree with me to change my major. Even until now, I'm happy with this decision. (a senior student who is going to pursue postgraduate study for Master of Finance through postgraduate recommendation, from a rural family)

From the above examples, we learn that other than parental support, FGCSs can also receive instrumental support from others in their extended family. It can be seen that FGCSs are supported and assisted in terms of the family aspect.

4.2 *College support: technical and informational dimensions*

Regarding FGCSs' integration and engagement at schools, some interviewees pointed out it was their teachers and like-minded classmates that provided them with support through help and knowledge-sharing. They recognized that college learning is not limited to exam-oriented education, and that participation in extracurricular activities and competitions can also contribute to their scholarship opportunities. As a result, many FGCSs actively participate in these activities. One respondent talked about his own feelings related to this:

I often take part in various activities and competitions and get acquainted with classmates of other majors. I find that my teammates are quite easy to get along with, and if there is something I don't understand, I can always ask them. Or there was even a time that I reached out to a teacher directly and received a prompt response. (a sophomore student, from a rural family)

For this participant, it was professional instructions from teachers and warm-hearted suggestions from classmates

that empowered him to learn while participating in extracurricular activities. Furthermore, some respondents mentioned that information about activities and competitions was initially shared by their classmates and teachers, and some professors were kind enough to offer relevant resources. This suggests that through consultation with teachers, peer communication, and a friendly campus culture, FGCSs who adapt to university study requirements and actively integrate into higher education academic culture can find their place in college.

Table 2. (Sub-)Themes of social support to FGCSs' engagement

Themes/subthemes	References (N = 102)	Quotes
Theme 1. Family support stimulates FGCSs with motivations.		
Subtheme: emotional support (e.g. listening patiently and alleviating negative emotions, company and communication, encouraging by reasoning and trust)	26	*"I almost broke down after the mock exam, so I called my parents. They comforted me for over an hour, telling me that passing the exam is like thousands of troops going through a single-step bridge, and they did not require me to pass at one time. This helped me to calm down, lowered my psychological expectations and reduced the pressure of preparing for the exam."* (a senior student who has managed to pass the China civil service exam, from a county family)
Subtheme: economic support	7	*"When I told my parents I wanted to go for postgraduate study for an extra two or three years, they agreed without thinking twice, but making sure that I do not have to worry about the cost of postgraduate education."* (a senior student who applied for a master program successfully, from an urban family)
Theme 2. Friend support offers FGCSs with advice.		
Subtheme: suggestions for life problems	13	*"I have two or three close friends who I still keep in touch with though in different colleges. Usually, I turn to them when there is something inconvenient to talk to my parents, or they can help me to solve some problems in terms of their majors."* (a freshman student, from a rural family)
Subtheme: explanations to academic questions	8	
Theme 3. Others' support provides FGCSs with assistance.		
Subtheme: teachers (e.g. professional instruction, personality charm influence, provision of resources)	15	*"Sometimes I need to organize collective activities, but there are often some classmates who do not want to come or have opinions. I will turn to the counselor teacher for help, asking what I should do would be more appropriate."* (a sophomore student as a student leader, from a county family)
Subtheme: (senior) classmates (e.g. exchanging ideas, information sharing, leaning struggles empathy)	14	*"I enjoy teaming up with some like-minded classmates and participating in competitions. Hopefully, we can work together to win a group prize."* (a junior student, from a county family)
Subtheme: relatives (e.g. encouragement, suggestions in terms of experience)	3	*"My father had no idea about the major I wanted to change, so he went to ask my aunt who has a better education level to confirm it."* (a sophomore student, from a county family)
Subtheme: social resources (e.g. scholarship, subsidy, alumni, the Internet)	5	*"Our university offers many work-study opportunities as well as student subsidies, which helps me to balance my learning and part-time job."* (a freshman student, from a rural family)

4.3 *Positive psychological capital: Fostering self-reliance and empowerment in FGCSs' engagement*

Based on the four sub-dimensions of Positive PPC revealed from the data, Table 3 shows that the interviewees exhibited a low inclination towards optimism and hope, implying that they are susceptible to emotional distress such as worry, anxiety, and frustration. This is especially pronounced among senior students who face uncertainties regarding their career paths or postgraduate study options.

Table 3. (Sub-)Themes of positive psychological capital to FGCSs' engagement

Themes/subthemes	References (N = 61)	Quotes
Self-efficacy	9	"*I think what I have achieved with my own efforts so far can be seen as a realization of my self-worth. I also want to prove myself."* (a sophomore student who was able to adapt to university life and excel in many aspects, from an urban family)
Resilience	16	"*Actually, I feel that I am not very smart, but I will spend a lot of time trying until it is done.*" (a sophomore student, from a rural family)
Optimism	5	"*I think it is very important to have a good psychological adjustment. For example, it is already very good for me to come to university and the large city.*" (a sophomore student, from a county family)
Hope	2	"*I hope I can make a living in a large city in the future. I know it will be difficult as the first generation, but at least it can start from my generation.*" (a junior student, from a county family)
Independence and Initiative	21	"*I have been considering my future from the first year in college, as I know the decision has to be made by myself, like I can only rely on myself to study hard from an early age.*" (a junior student, from a rural family)
Appreciation	8	"*They trust me so well, so I also want to study harder to live up to them.*" (a senior student, from a rural family)

For those FGCSs who have successfully adapted to university life and excelled in many areas, they attribute the success not to innate extraordinary intelligence, but to qualities such as resilience, endurance, diligence, and persistence. As one participant put it, "*I'm not particularly talented, but I'm willing to put in the effort and never give up. I think that's what has helped me succeed.*"

In fact, many FGCSs have cultivated qualities such as resilience, endurance, diligence, and persistence even before entering college. This is because they have had to overcome significant barriers to access higher education due to their limited socio-cultural capital. Consequently, the majority of respondents emphasized the importance of "relying on themselves", which emerged as a prominent theme during coding. One participant shared their thoughts on this, saying:

> *Since my first year in college, I have been contemplating my future, knowing that the decision ultimately rests on myself. As FGCSs, we have learned to rely on ourselves from a young age, and as adult college students, we must take responsibility for our own future.* (a junior student, from a rural family)

As evident from this, the majority of FGCSs find themselves having to navigate and cope with the challenges of each educational phase independently. However, from a positive perspective, they appreciated that it helps them foster independent thinking and learning initiative. In detail, most of them get used to making study plans and setting personal goals. Additionally, some were conscious of being grateful to others' assistance and support, which motivated them to work hard.

Further, in addition to the commonalities of FGCSs mentioned, a disparity between interviewees coming from different backgrounds was noticed as well. Several FGCSs from rural families acknowledged that they would take part-time jobs to earn extra living expenses, which takes up part of their extracurricular time, as compared to those from urban or county families. Although such cases are less common among FGCSs from working families in urban or county areas, most of them admitted that they would still be affected by the challenging reality that their parents engage in labor-intensive work, often without the advantage of a high educational degree. For example, a senior FGCS in the interview put it frankly that "*I feel a little psychological pressure and afraid that I might not find a decent job even after postgraduate education that my parents have agreed to pay for*", saying that they would also feel hesitant that the expenses of postgraduate education cause a large burden to their parents.

In summary, as demonstrated in coding results in Table 2 and Table 3 as well as the further theme analysis above, it is evident that FGCSs are not as helpless and disadvantaged as suggested by the deficit-based view. Contrarily, their parents' unwavering support, coupled with a range of social resources and assistance, serves as a valuable compensatory factor for the perceived deficiency in family cultural capital associated with their first-generation identity. Furthermore,

the positive traits exhibited by FGCSs play a significant role in empowering them to navigate their path towards higher education.

5. Discussion

This study explored how FGCSs take advantage of SS and their PPC to integrate and engage into higher education in China. Through an in-depth analysis of the interview data, despite being aware of the differences between themselves and NFGCSs, as well as internal differences among FGCSs, they consciously sought and utilized supportive family assistance and available social resources. Furthermore, they actively leveraged their strengths such as resilience, independence, and initiative, to invest in educational activities in higher education and distinguish themselves as further discussed below.

First and foremost, although FGCSs' parents have limited cultural capital and informative resources to offer, the current study found that they can support FGCSs with visible actions, such as investing their economic savings in children's education, which is referred to as "family education investment" or "family inputs" (Jin, 2004, p.177). In most cases, FGCSs come from rural or working-class families with lower economic status (Tate et al., 2015). However, parents who are willing to fund their children's education can instill a belief in education in their children and motivate them to attach greater importance to receiving an education. This belief is often rooted in China's traditional culture, which emphasizes the idea that "one who excels in study can follow an official career" and brings honor to the family name (Fang & Lu, 2022, p.36). Therefore, families, especially FGCSs' parents, pin their hopes on their children and support them unconditionally.

However, prior studies have noted that family investment in education extends beyond financial support to include non-monetary resources such as time and emotional support (Liu & Xie, 2015). In comparison to NFGCSs, whose parents may have more experience providing college-related information, FGCSs benefit more from emotional support from their parents, who encourage them to pursue higher education regardless of their chosen field of study (Martin et al., 2020). The present study confirmed this finding by demonstrating that emotional support from parents makes FGCSs feel loved and valued, which, in turn, motivates them to invest more in their education and have greater faith in its value. As a result, a greater level of learning engagement might be anticipated. Specifically, it helps FGCSs to transit to the college phase (Nichols & Islas, 2015), improve their enthusiasm to participate in activities (Roksa & Kinsley, 2019), and prevent from the detrimental effects of stress (Susan et al., 2011). In this way, it enables FGCSs better adapt themselves to the new requirements in higher education, which differs from the exam-oriented education in primary school and high school and better integrate into college life.

This research also found that when parents fail to find some information about what FGCSs are learning and experiencing in colleges, some will pool resources within the family and expand the family's external capital to meet the education needs. This is in line with the findings of Martin et al. (2020) who mentioned that siblings of FGCSs who had previously attended college offered practical advice about college attendance. Non-firstborn FGCSs can turn to their older siblings as role models and sources of guidance for attending college. Otherwise, some relatives with higher educational degrees could also be turned to. This is in accord with what has been illustrated in Fang and Lu (2022)'s article that, with the emergence of the second and third generation of college students in Chinese families, present FGCSs in China are starting to face less obvious development difficulties. Furthermore, nowadays parents would also take advantage of the internet to inform themselves about how to help their child navigate through college, which echoes with the finding of Susan et al. (2011). By doing so, barriers such as lack of information about the higher education field could be narrowed down to some extent. In other words, FGCSs' families are trying to enhance their informational support to help FGCSs to better integrate in colleges.

As for social resources, FGCSs can benefit from interpersonal resources in college, such as teachers and classmates. In line with the findings of Martin et al. (2020), teachers were found to be the most salient resources of support for FGCSs in their learning, providing primary sources of information about professional knowledge. In this way, teachers can provide professional support for FGCSs' autonomous learning needs, helping them better adapt to and succeed in higher education.

Moreover, the group projects in college education require students to collaborate with others, which makes it possible for FGCSs to engage more with their classmates and senior students. This increases the intensity of their

learning engagement and promotes their learning ability as well as social communication skills, which aligns with the findings of Lu and Hu's (2015) study. Particularly, as existing research has pointed out the importance of peer support (Plaskett et al., 2018; Van Ryzin et al., 2020), it is noted that since most students in a major or experiencing similar academic stress are peers, they can empathize and understand each other's struggles, providing assurance to FGCSs that they are not alone.

Finally, FGCSs can resort to available resources and opportunities offered by institutions and society. Prior studies (Susan et al., 2011; Terenzini et al., 1996) have found that some colleges have taken actions to provide entrance education to help freshmen smoothly integrate into college life, such as living-learning program (Inkelas et al., 2007), difference-education intervention (Stephens et al., 2015) and resilience education in first year seminars (Chandler et al., 2020), which is beneficial to FGCSs who lack information about higher education from parents. Meanwhile, mentoring programs pairing students with professors are more likely to assist FGCSs in academic study. Additionally, other social resources and support beyond colleges are available, such as online education, scholarships and subsidies sponsored by social institutions, as well as internships intended for college students. These resources can motivate FGCSs to work hard and equip themselves with more knowledge and practical skills.

However, instead of being solely influenced by external factors such as a lack of family cultural capitals or seeking help from others, this study highlights the importance of PPC, as FGCSs can leverage their own subjective initiatives and personal strengths.

In particular, the study revealed that FGCSs exhibit prominent positive characteristics, which may be attributed to their ability to overcome challenges in pursuing higher education. As noted previously, FGCSs who overcome the lack of cultural capital in their families to enter higher education often develop effective learning habits, excellent learning ability, and positive qualities such as self-independence, self-resistance, and perseverance in the process (Li & Qiu, 2016; Sun & Liang, 2021). Accumulating and internalizing these intangible strengths can lead to academic performance that is at least as good as, if not better than, that of non-first-generation college students (NFGCSs). This gradual enhancement of self-efficacy and high levels of engagement in learning and personal development enables FGCSs to better engage into and excel in the field of higher education.

Furthermore, as some respondents noted, FGCSs often have no choice but to rely on themselves. As a result, they tend to possess a strong sense of self-independence and responsibility for their own academic success (Yee, 2016), which are essential traits for self-directed learning in higher education. This finding is supported by Mitchall and Jaeger (2018)'s study, which found that autonomy support from FGCSs' parents fosters their self-determination and initiatives during college planning. In other words, it is FGCSs' personal advantages and strengths as well as social support that empower them to pursue higher education, authentically adapt to the college learning requirements, and achieve academic success to a great extent.

Crucially, the key to the success of FGCSs lies in their active engagement of internal attributes, leveraging their strengths, and proactively cultivating connections to access resources (Chandler et al., 2015, 2020; Rutter, 2012; Ungar, 2019). This notion finds support in the narratives of some respondents who consciously integrate valuable online information and tap into resources provided by schools. For instance, one respondent successfully secured an internship through alumni association resources. Despite initial limitations in social connections, FGCSs demonstrate their ability to overcome such disadvantages and progressively accumulate social support. This aligns with the principles of resilience, encapsulated in the ABCs: Active coping, Building strengths, and Cultivating connections (Chandler et al., 2015).

6. Conclusion and implications for future research

In conclusion, this study extended the research on FGCSs' engagement in higher education. Firstly, the findings suggest that FGCSs can consciously leverage external resources to compensate for the lack of family cultural capital. Secondly, the study highlights the need to adopt a strengths-based perspective when examining FGCSs, by recognizing their internal positive qualities such as resilience and initiatives, rather than solely focusing on their deficiencies in preparing for higher education.

Furthermore, the study has important implications for developing supportive strategies for encouraging FGCSs' engagement in higher education. First, the study suggests that FGCSs can benefit from SS to integrate and adapt

to the requirements and field culture of higher education. This finding emphasizes the importance of providing FGCSs with access to resources and support networks to help them navigate the challenges of college life. Programs and interventions that enhance SS, e.g., freshmen entrance education and mentoring programs are expected to be developed in that sense. Second, the study highlights the role of PPC to FGCSs' engagement as well. This suggests that interventions that target the development of positive psychological traits, such as resilience and initiative, could have a positive impact on FGCSs' learning engagement. Therefore, skill-building workshops cultivating their positive psychological traits should be encouraged as echoed in Chandler et al. (2020).

This research has implications for future research. Firstly, future research could use a longitudinal study to investigate how social support and positive psychological capital evolve over time in FGCSs' engagement in higher education. Secondly, it is suggested that future research comparing FCGSs with non-FCGSs should be conducted, to identify unique factors that contribute to the engagement of Chinese FGCSs. Finally, it might be interesting to compare the role of social support and positive psychological capital in the engagement of FGCSs across different cultural contexts. This can help identify commonalities and differences in the factors influencing the engagement of first-generation students globally.

Acknowledgments

Conflict of interest

The authors declare no competing financial interest.

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Appendix A
Interview guide

1. What challenges did you face as the first in your family to attend college?

2. During your undergraduate studies, who did you typically seek help from, and what was your relationship with that person?

3. How did you interact with your family during your college years, and in what situations did you turn to them for assistance?

4. If family support was unavailable, did you seek help from other relatives? If so, who and why?

5. Describe your friendships during college. Did you have close friends, and when did you approach them for assistance?

6. How did you engage with your classmates, and in what circumstances did you seek help from them?

7. Did you actively seek help from teachers during your undergraduate studies? Under what conditions did you approach them?

8. Reflecting on your college experience, share a memorable instance where you sought help from someone. Who did you ask for help, and why?

9. As a first-generation college student, did you ever feel lost due to a lack of information from your family? How did you cope with that feeling?

10. Discuss how you managed and adjusted your mindset when faced with challenges during your college years. What personal growth did you experience?

11. In your opinion, how can families of first-generation college students leverage available resources to support their members and help them navigate and succeed in college life?