

# Academic Major and Mental Health among Chinese College Students

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## Abstract

**Background:** A college student's academic major is not always the total free choice of the student in Chinese universities. If a student is not enrolled in the program, he/she has chosen, the student is usually placed in an academic program at the university's discretion. Further, a Chinese college student is usually required to finish and graduate from the program he/she has started in the freshman year. If a student does not like the academic major yet has to complete it, the student may feel frustrated during the years of college education and may experience certain psychopathological problems.

**Methods:** A structured questionnaire including demographics, familial and social circumstances, and personal characteristics was administered to a sample of college students in China. The randomly selected sample consisted of 2,400 undergraduates (males=884, 36.8%; females=1,516, 63.2%) from a university campus in terms of mental health condition as well as social and cultural life. Major outcome variables were satisfaction with academic major, self-esteem (SE), depression (CES-D) and psychological strains (PSS).

**Results:** Those students satisfied with the academic major scored higher on self-esteem ( $t = 3.997, p < 0.001$ ), and lower on depression ( $t = -4.144, p < 0.001$ ) and psychological strains ( $t = -4.729, p < 0.001$ ) than those who were not satisfied with their academic majors.

**Conclusions:** The college students who do not like their study area but must stick to it feel less happy and experience, to some extent, psychological strains. This can be a problem in the Chinese higher education system. Education reform should be recommended based on the findings from this research.

**Keywords:** College students, Academic major, Satisfaction, Mental health, Depression, Self-esteem, Psychological strains

## Background

Universities around the world in this 21<sup>st</sup> century are facing challenges of globalization, competition and information and communication developments. Educators are obligated to equip their students with knowledge and essential skills in order to effectively confront challenges in the contemporary world, such as the global economy and society, given that these attributes hold significant value within an increasingly interconnected globalized context. [1]. Nowadays there is a growing awareness of inadequacies that exist in Chinese higher

education. China has the largest college student population in the world and therefore biggest responsibility and vigilance to avoid big problems. As we know, college students' mental health directly influences their personal growth, campus culture, and society as a whole. The measurement of mental health should extend beyond psychological variables to include school life quality variables like satisfaction with academic major.

In China, college students' academic majors, the area of study, are not always the choices of students. A college student is

usually required to finish and graduate from the program he/she has started in the freshman year. If a student does not like the academic major, the student may feel frustrated during the years of college education and may experience certain psychopathological problems. This study aimed to find an appropriate relationship between satisfaction with academic major and mental health or psychopathologies among Chinese college students, and to give suggestions for reform.

Different from the Chinese universities, there are three ways for American college students to select an academic major. First, the most significant influences on university field selection were high school teachers, the students' parents and the adjacency of university to one's living place [2]. Studies indicate that mothers influence students' choice of academic major most readily through emotional and normative channels. In addition, mothers generally encourage the pursuit of nontechnical majors, whereas fathers encourage the pursuit of technical majors [3]. Second, professional websites like [www.MyMajors.com](http://www.MyMajors.com) can provide advice to high school students or college freshmen who are seeking assistance in selecting a potential major by assessing student qualifications for a variety of majors. This allows the student to narrow down their choice of major from 60 to approximately 6 selections, which can then be used by a human advisor to further extend and strengthen the advisement process [4]. Even though the expert advisor system is an uncertain and fuzzy one, at least it shows the more scientific and intellectual possibility to meet the requirements of these students. Furthermore, this kind of system makes them less likely to be unsatisfied with their academic majors. A third way for American college students to select an academic major is by their own will, choosing a major as based on interests and individual choice. As a result, career education and exploration among US college students reflect a more "individualistic orientation" [5]. Why is choosing their own major so important? Because their major may be associated with many aspects of their lives. For example, how students' use of language learning strategies (LLS) was affected by their academic major. One study indicated that social science students may need more training on how to use learning strategies related to local analysis and association, whereas science students may need more training on how to use time-consuming strategies [6]. For students themselves, challenge and self-orientation have been found as explanatory variables predicting high-school students' expressed choice for their academic career. Empirical studies support the hypothesis that the pre-existence of group differences in work values at the moment are related to their choice for a specific academic career [7]. The above conclusions further proved the importance of major selection.

At the same time, for most Chinese high school students, working hard in order to be able to attend a university is the basic guarantee for success in the job market [8]. This basic guarantee should be paid strong attention to all over China.

Since Chinese students may often experience too many failures and frustrations from the academic major he/she has chosen, research is necessary to solve or relieve it. However, there is limited existing literature on the relationship between academic major satisfaction and mental health, or from the prospective of psychological strain and self-esteem. In the USA, several studies have found a relationship between college students' academic majors and their environmental attitudes and behaviors [9]. Research findings indicate that individuals are significantly influenced by the socio-academic milieu of the institution, leading to a process of integration. Social interactions with peers, faculty members, and staff members greatly influence how individuals perceive themselves and others. In terms of academics, the quality of education provided by an institution directly affects students' learning outcomes and personal development. Access to resources such as libraries, laboratories, research opportunities, and extracurricular activities all contribute to a well-rounded educational experience. Moreover, exposure to diverse perspectives through classroom discussions fosters critical thinking skills and broadens students' understanding of various subjects. Integration within an institution is not limited solely to academic aspects but also encompasses social integration. Students who actively participate in clubs or organizations tend to have a stronger sense of belongingness within the campus community. This involvement provides opportunities for networking, building friendships, developing leadership skills, and exploring new interests outside of formal coursework. To sum up, this integration impacts students' academic goals, future plans, and commitment to the university [10]. Findings demonstrated that undergraduates who are happy will be more likely to do better work, have good interpersonal relationships, and possess more endurance to stress and challenging situations [1].

In one perspective, students are considered as customers because they are the fee payers. They are buying educational services for their satisfaction. Paying fees is an economic activity in the commercial sense. Therefore, students' satisfaction with the overall learning environment is essential for retention and future referrals [11]. In other words, student satisfaction becomes an important matter for the reputation of universities. University students' satisfaction with their studies is an important matter for themselves, their teachers, their institutions, and the public that scrutinize universities [12]. Since students' academic major satisfaction is so important, evaluation of academic major satisfaction is an important indicator for identifying students with low level of satisfaction requiring career counseling intervention [13].

Given that students spend a significant amount of time doing their academic studies, it is not surprising that the relationship between academic major satisfaction and mental health is an important factor in a student's school life. Academic major was indeed found to moderate the relationship

between students' conscientiousness and their Grade Point Average (GPA) [14]. Commitment to an academic major and satisfaction with faculty interactions were both found to be significant predictors of the GPA [10]. Optimism was shown to fully mediate the influence of conscientiousness on satisfaction with academic major [12]. Due to an increasingly competitive and dynamic educational environment, as well as numerous challenges such as declining level of innovation capability and a general public demanding employment ability after graduation, Chinese universities should be aware of the importance of student's satisfaction with their academic majors. Therefore, the aim of the current study is to explore the relationship between academic major and multiple aspects of mental health outcomes among Chinese college students. The recent recognition is that the level of academic major satisfaction is valuable for understanding students' mental health, which gives them ability to succeed behaviorally and academically. Thus, our hypothesis is that having a positive and satisfactory relationship with one's study area and a relationship that is free from conflict and negative exchanges is associated with lower levels of depression and aggression. Furthermore, willingness to finish academic achievements and to view the teacher as a resource person is predictive of more stable mental health. Absence of conflict and negative interaction within the study area is also predictive of academic success. Chinese colleges should devote more attention to why students succeed or do not succeed. University managers must believe in the students-as-customers' conceptualization for competitive positioning and advantage [11].

## Method

### Samples

A survey questionnaire was developed and used to assess Chinese college students' campus life. In this study, the sample consisted of 2,400 college students (1,298 students from 2012 and 1,102 from 2013; males 884, 36.8%; females 1,516, 63.2%) who were well distributed in all the four years of undergraduate education in this university.

### Administration of the survey

The investigation object is strictly in accordance with the principles of random sampling extraction. The student roster was taken from the student work department. In the roster, according to the principle of systematic random sampling, a survey sample showing a very strong representation of students ranging from freshman to senior students was created. With the assistance of the University Student Personnel Department, all students on the random sampling list for the questionnaire were contacted. The survey test was conducted in accordance with standardized procedures. There are two main testers: the first is the director of the studies ministry (testing), and the other oversees the class (auxiliary testing) within about 60 minutes. The questionnaire

included demographics, interpersonal and social interaction variables, as well as indicators of mental health. The study was approved by the Institutional Research Board at the University where the research was administered. Informed consent was obtained before each student answered the questionnaire, and all the participants had the right to reject this progress or quit whenever they wanted.

### Measures: Satisfaction with academic major

Student satisfaction with his/her academic major or educational experience was measured by a question assessing the degree of overall satisfaction. The question "Are you satisfied with your current academic major?" was asked to be answered with choices "very satisfied=1," "satisfied=2," "neutral=3," "unsatisfied=4," "very unsatisfied=5." We also dichotomized the satisfaction variable to "satisfaction" and "dissatisfaction" by removing "neutral" as a choice. The original sample size of 2,400 becomes 1,596 in this sub-analysis.

### Measures: Socio-demographic variables

Socio-demographic factors included Gender ("male=1," "female=2"), Residence ("rural=1," "urban=2"), Year in School ("freshman=1," "sophomore=2," "junior=3," "senior=4"), Siblings ("only child=1," "not only child=2") and Age (Year). All of them were collected by close-ended categorical items at the beginning of questionnaire.

### Measures: Mental health and psychology

CES-D: Depression was measured with the Center for Epidemiological Studies-Depression Scale, which is a 20-item self-report scale developed to assess current levels of depressive symptoms in the general population with four inverse items (Item 4, 8, 12, and 16). The overall question is that in the past week, how many days (from 0 day to 7 days) reflects the actual situation of the problem frequency.

Psychological Strain Scale: PSS originated from the theory of suicide torsion [15]. The Strain Theory of Suicide emerged as an additional theoretical conceptualization to explain the unique patterns of Chinese rural young female suicide [15]. Since its inception, the theory has been tested and supported in a number of empirical studies, such as with a Chinese Rural young case control sample [16]. This social psychological theory can be employed as a complementary conceptualization to account for suicidal behaviors as well as mental disorders [17]. With excellent scores on both reliability and validity, the English version of the PSS scales can be a solid measurement for estimating the psychological strain levels of American college students as well as predicting their psychopathology [18]. This includes 60 questions which are divided into four dimensions: value conflict, discrepancy between aspiration and reality, perceived relative deprivation and coping deficiency during life crisis. It adopts the Likert 5-point scoring method, which asks the participants to rate

on a scale of 1-5, with 1 representing "completely disagree" to 5 representing "completely agree." There are five grades with no reverse scoring questions following. We calculated the total scores from each item. Higher scores on the PSS indicate higher levels of depression.

SE: Self-esteem was measured by the 10-item SE Scale, adopting Likert 4-point scoring method, which was first developed by Rosenberg [19] to measure global attitudes toward the self through five negatively worded items (Item 2, 5, 6, 8, and 9) with four choices for each item ranging from "strongly agree=1" to "strongly disagree=4" and five positively worded items (Item 1, 3, 4, 7, and 10) with four choices for each item ranging from "strongly disagree=1" to "strongly agree=4." The higher scores on the SE Scale represent higher self-esteem.

We hypothesized that the lower the level of satisfaction with the academic major, the lower the level of current mental health with statistical significance. The independent variables of mental health were estimated and measured by Binary Logistic regression analysis, relevant analysis as well as Independent-samples T test using the SPSS (version 19.0).

### Statistics analysis

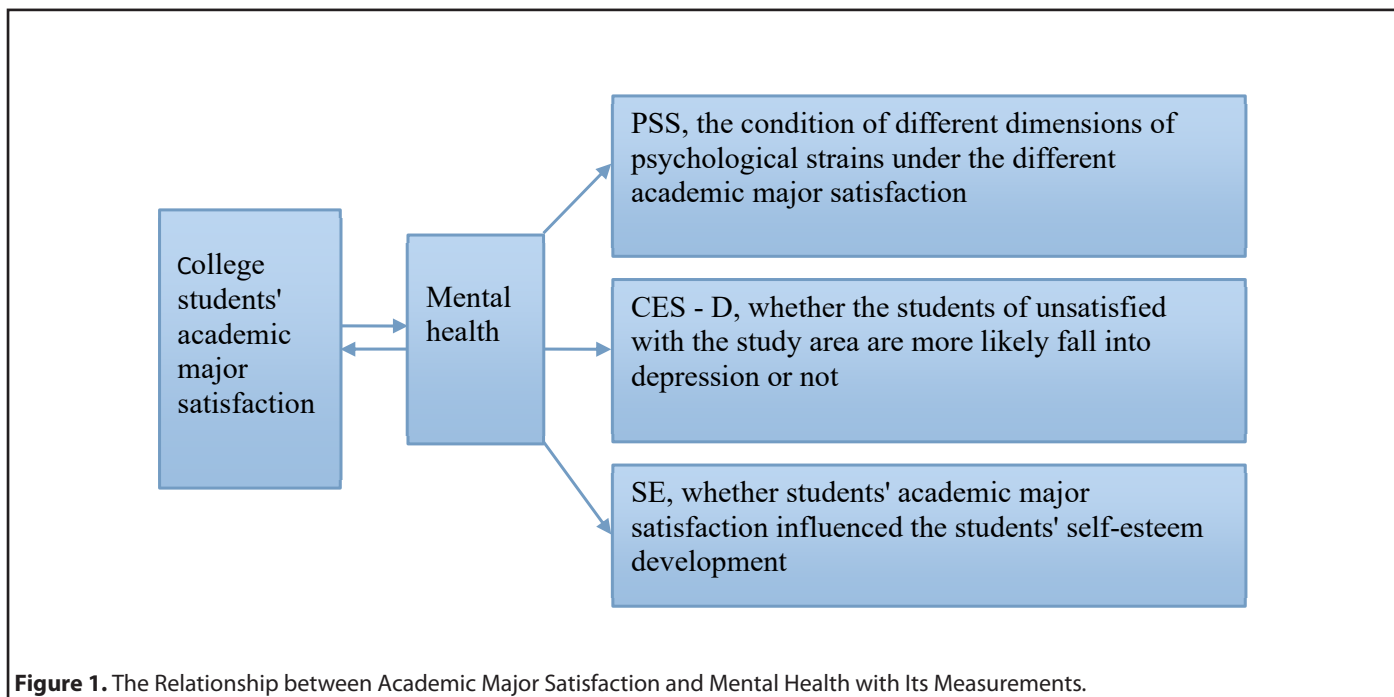
In this study the mental health condition of Chinese undergraduate students was divided into three parts. To make the analysis progress easier, whether students were satisfied with the study area or not was used as the dependent variable. Three psychological scales in this exploratory study were used to investigate the absolute levels of mental health, and to clarify the relationship between academic major satisfaction and psychological condition among Chinese

college students. Those are the Center for Epidemiologic Studies, Depression Scale (CES-D) and Self-esteem Scale (Self-esteem), which partially mediated the relationship between stigma perception and social avoidance, social anxiety and loneliness [20] and the Psychological Strain Scale (PSS). The resultant data was used to construct a structural model of the hypothesized relationships among variables, especially the Strain Theory which can reflect the risk of suicide.

## Results

### General findings

As shown in **Table 1**, Demographic factors included Gender, Residence, Grade, Siblings, Age, Psychological Strain, CES-D and SE are introduced. Gender variables were divided into male and female, with the result that in males there are 500 students (84.2%) satisfied while 94 students (15.8%) were unsatisfied with their study areas, and 852 females (85.0%) who were satisfied with the study area while 150 females (15.0%) were unsatisfied. For other general categories, there were 15.4% unsatisfied students from the point of view of residence, 15.3% of grade, and 15.3% of Siblings. The above shows 15.3% of students being unsatisfied with their study area. Chi-square tests shows that there is no significant correlation in dimensions of Gender ( $\chi^2= 0.210, p>0.05$ ), Residence ( $\chi^2= 1.060, p>0.05$ ), Year in School ( $\chi^2= 4.659, p>0.05$ ), Siblings ( $\chi^2= 0.003, p>0.05$ ) and Age ( $t=0.022, p>0.05$ ). On the other hand, there are strong correlation between satisfaction with academic major and Value Strain ( $t = -2.750, p<0.01$ ), Aspiration Strain ( $t = -6.582, p<0.001$ ), Deprivation Strain ( $t = -3.811, p<0.001$ ), Coping Strain ( $t = -3.454, p<0.01$ ), Total Psychological Strain ( $t = -4.729, p<0.001$ ), CES-D ( $t = -4.144,$



**Figure 1.** The Relationship between Academic Major Satisfaction and Mental Health with Its Measurements.

**Table 1.** Demographic characteristics of the sample: Comparing those who are satisfied and unsatisfied with their academic major (N=1,596).

Variable	Satisfied (n=1,352) X̄ (SD) or f (%)	Unsatisfied (n=244) (SD) or f (%)	t / χ <sup>2</sup>	p
<b>Gender</b>			0.21	0.646
Male (1)	500 (84.2)	94 (15.8)		
Female (2)	852 (85.0)	150 (15.0)		
<b>Residence</b>			1.06	0.303
Rural (1)	207 (82.5)	44 (17.5)		
Urban (2)	1,130 (85.0)	199 (15.0)		
<b>Year in School</b>			4.659	0.199
Freshman (1)	409 (83.5)	81 (16.5)		
Sophomore (2)	426 (87.5)	61 (12.5)		
Junior (3)	300 (82.6)	63 (17.4)		
Senior (4)	213 (84.9)	38 (15.1)		
<b>Siblings</b>			0.003	0.954
Only child (1)	995 (84.7)	180 (15.3)		
Not only child (2)	357 (84.8)	64 (15.2)		
<b>Age (Year)</b>	19.50 ± 1.43	19.50 ± 2.15	0.022	0.982
<b>Psychological Strain</b>				
Value strain	36.24 ± 10.30	38.22 ± 10.54	-2.75	<0.01
Aspiration strain	34.86 ± 11.45	40.19 ± 12.19	-6.582	<0.001
Deprivation strain	28.41 ± 11.24	31.42 ± 11.66	-3.811	<0.001
Coping strain	29.42 ± 11.04	32.09 ± 11.48	-3.454	<0.01
Total	128.76 ± 38.89	141.76 ± 39.95	-4.729	<0.001
<b>Depression (CES-D)</b>	29.34 ± 18.70	34.78 ± 20.41	-4.114	<0.001
<b>Self-Esteem (SE)</b>	29.09 ± 3.81	28.04 ± 3.59	3.997	<0.001

$p < 0.001$ ) and Self Esteem ( $t = 3.997, p < 0.001$ ). As shown in the table, the frequency of sophomores is the biggest, with seniors following. The freshman and the junior students were a little more likely to report satisfaction with their majors. The Aspiration Strain scores of the unsatisfied students are the highest ( $40.19 \pm 12.19$ ) on the PSS.

### Logistic regression analysis

As shown in **Table 2**, Ten Binary Logistic regression Models were used to compare the difference between all dimensions for academic major satisfaction, which indicates that there is definite significance in dimensions of Value Strain, Aspiration Strain, Deprivation Strain, Coping Strain, Total Strain, Depression (CES-D) and SE. Model 1 to 5 included these three independent variables, in which the SE and PS is highly correlated with the satisfaction with academic major. Model 6-10 indicated that Depression and PS is negatively correlated

with satisfaction with academic majors. In other words, students' satisfaction with their study areas has something to do with SE, Depression (CES-D) and Psychological Strain. Those who have higher Self-Esteem, lower Depression, and lower Psychological Strain are more likely to be satisfied with their academic major.

### Discussion

The results indicated that, where there was a lower level of Psychological Strain and Depression, and higher level of Self-esteem, a higher level of academic major satisfaction was found. As this verifies that there is strong correlation between psychological strain and depression in Chinese rural populations [21], we can surmise that Aspiration Strain is very important. As we see, PS, CES-D and SE were important predictors in the perception of their mental health. It is generally believed that the higher the academic major



<b>Table 2.</b> Logistic regression analyses on the academic major dissatisfaction (N=2,400, OR and its 95% CI).					
<b>Predictor</b>	Model 1 (R <sup>2</sup> =0.025)	Model 2 (R <sup>2</sup> =0.039)	Model 3 (R <sup>2</sup> =0.029)	Model 4 (R <sup>2</sup> =0.026)	Model 5 (R <sup>2</sup> =0.033)
<b>Gender</b> (Reference=Female)					
Male	1.02 (0.86, 1.22)	1.02 (0.85,1.21)	0.95 (0.80,1.14)	0.98 (0.82,1.16)	1.01 (0.85,1.20)
<b>Residence</b> (Urban=Reference)					
Rural	1.23 (0.96, 1.59)	1.18 (0.92,1.53)	1.21 (0.94,1.56)	1.23 (0.95,1.58)	1.19 (0.92,1.53)
<b>Year in School</b> (Senior=Reference)					
Freshman	1.25 (0.87, 1.79)	1.25 (0.87,1.79)	1.25 (0.86,1.81)	1.29 (0.90,1.83)	1.26 (0.87,1.83)
Sophomore	0.98 (0.72, 1.34)	0.98 (0.72,1.35)	0.98 (0.71,1.34)	1.00 (0.73,1.36)	0.98 (0.71,1.35)
Junior	1.29 (0.97, 1.71)	1.30 (0.98,1.73)	1.27 (0.95,1.69)	1.27 (0.95,1.68)	1.32 (0.98,1.76)
<b>Siblings</b> (not only child=Reference)					
Only child	0.93 (0.75, 1.15)	0.92 (0.74,1.14)	0.92 (0.75,1.14)	0.92 (0.74,1.13)	0.92 (0.74,1.13)
<b>Self-Esteem</b> (SE)	0.95(0.93, 0.98)***	0.95(0.92,0.98)***	0.95(0.93,0.98)***	0.95(0.93,0.98)***	0.95(0.92,0.97)***
<b>Depression</b> (CES-D)	1.001 (0.99,1.01)	1.001 (0.99,1.01)	1.00 1(1.00,1.01)	1.001 (0.99,1.01)	1.001 (0.99,1.01)
<b>Age</b> (Year)	1.04 (0.96, 1.13)	1.04 (0.96,1.13)	1.02 (0.94,1.11)	1.03 (0.96,1.12)	1.03 (0.94,1.12)
<b>Value Strain</b>	1.01(1.01, 1.02)***	-	-	-	-
<b>Aspiration Strain</b>	-	1.03(1.02,1.03)***	-	-	-
<b>Deprivation Strain</b>	-	-	1.02(1.01,1.03)***	-	-
<b>Coping Strain</b>	-	-	-	1.02(1.01,1.02)***	-
<b>Total Psychological Strain</b>	-	-	-	-	1.01(1.00,1.01)***
<b>Constant</b>	0.75	0.53	1.1	0.91	0.79
<b>Predictor</b>	Model 6 (R <sup>2</sup> =0.018)	Model 7 (R <sup>2</sup> =0.033)	Model 8 (R <sup>2</sup> =0.023)	Model 9 (R <sup>2</sup> =0.020)	Model 10 (R <sup>2</sup> =0.026)
<b>Gender</b> (Reference=Female)					
Male	1.04 (0.87, 1.23)	1.03 (0.87,1.23)	0.96 (0.81,1.15)	0.99 (0.83,1.18)	1.02 (0.85,1.21)
<b>Residence</b> (Urban=Reference)					
Rural	1.22 (0.95, 1.157)	1.17 (0.91,1.51)	1.20 (0.934,1.54)	1.21 (0.94,1.56)	1.17 (0.91,1.51)
<b>Year in School</b> (Senior=Reference)					
Freshman	1.26 (0.88, 1.81)	1.26 (0.88,1.81)	1.26 (0.87,1.81)	1.30 (0.91,1.85)	1.27 (0.87,1.84)
Sophomore	0.98 (0.73, 1.36)	0.99 (0.73,1.37)	0.99 (0.72,1.36)	1.01(0.74,1.38)	0.99 (0.72,1.37)
Junior	1.29 (0.96, 1.70)	1.29 (0.97,1.72)	1.26 (0.94,1.67)	1.26 (0.95,1.67)	1.30 (0.97,1.74)
<b>Siblings</b> (not only child=Reference)					
Only child	0.92 (0.74, 1.13)	0.91 (0.73,1.12)	0.91 (0.74,1.13)	0.91 (0.74,1.12)	0.90 (0.73,1.12)
<b>Self-Esteem</b> (SE)	-	-	-	-	-
<b>Depression</b> (CES-D)	1.01 (1.003, 1.012)**	1.01 (1.001,1.010)*	1.01(1.002,1.011)**	1.01 (1.002,1.011)**	1.01 (1.004,1.009)*
<b>Age</b> (Year)	1.04 (0.96, 1.13)	1.04 (0.96,1.13)	1.02 (0.93,1.12)	1.03 (0.96,1.12)	1.03 (0.94,1.12)
<b>Value Strain</b>	1.02 (1.01, 1.02)***	-	-	-	-

<b>Aspiration Strain</b>	-	1.03(1.02,1.04)***	-	-	-
<b>Deprivation Strain</b>	-	-	1.02(1.01,1.03)***	-	-
<b>Coping Strain</b>	-	-	-	1.02(1.01,1.02)***	-
<b>Total Psychological Strain</b>	-	-	-	-	1.01(1.00,1.01)***
<b>Constant</b>	0.15	0.1	0.24	0.18	0.16
$\alpha=0.05$ . * $p<0.05$ level (2-tailed). ** $p<0.01$ level (2-tailed). *** $p<0.001$ level (2-tailed). SE is not used in Model 6-10.					

satisfaction or the interest of the student in the research field, the higher their mental health level, and the less possibility of falling into depression. That suggests that we should strive to improve student satisfaction with academic study as well as their mental health. Results were consistent with previous research into mental health condition and academic performance. Moreover, the results highlight the significant role of PSS in satisfaction with academic major. These findings show that the college students who do not like their study area feel less happy and experience some psychological strains. The study led us to consider the meaning of students' satisfaction with their study areas, especially the Aspiration Strains, and whether assessments of satisfaction might simply influence their psychological health. The study supports the hypothesis that the discrepancies between an individual's aspiration and the reality of their situation is likely to lead to mental disorder including major depression and suicidal behavior [22]. If this is the case, it is altogether clear what student satisfaction with their academic major means. We can conclude that education reform is an important task of the Chinese government. Even though it is pressing and complicated, determined efforts should be made by both universities and government. Suggestions are made for future research into modeling the relationships between different academic disciplines and the potential role of government action for higher education and counseling.

Psychological strains and self-esteem are significantly associated with academic major satisfaction among Chinese undergraduate students in this study, which has established key concepts associated with college students' development, and interaction with faculty is perhaps the most frequently cited institutional practice thought to improve student outcomes. In order to promote student mental health, we can promote their satisfaction with the academic major in multiple ways. First, we should hire experts with higher degrees to teach. Second, findings showed that students were satisfied with their international education student experience and that the internship/work integrated learning experience enhanced their satisfaction [23], so supporting more international chances maybe also helpful. Third, students want effective major counseling and placement upon graduation, more co-op experience, challenging programs, competent instructors, an atmosphere that encourages open communication and a

nurturing environment [24], so Chinese universities should offer a better efficient counseling mechanism. Even if in order to obtain better employment, satisfaction with the university was found to bear significant relationships with job satisfaction [25].

Having a positive academic major satisfaction–mental health relationship is another important dimension that influences students' academic and behavioral adjustment. Chinese universities should pay more attention to the problem of low level of students' academic major satisfaction for that leads to mental health deterioration. China can perhaps draw lessons from American colleges. For example, incoming freshman are not required to choose a major area of study when they first enter college. In fact, students have at least two to three semesters to decide upon a major. This allows them ample time to choose a variety of courses to find what suits their interests, while pursuing their general liberal arts requirements. Without constraint by academic requirements, the students are free to explore their own interest and specialty direction and choose their ultimate academic majors. They have a chance to select a desired academic major, rather than to adjust to an academic major he/she dislikes. The American educational model can lead to improved levels of academic major satisfaction, raising students' overall spirits and truly fulfilling the essence of education.

Existing studies have also revealed that students who are dissatisfied with their major tend to experience higher levels of stress and anxiety. This can lead to a decrease in academic performance, as well as difficulties in making decisions about future career paths. Additionally, these students may feel isolated or disconnected from their peers and the university community as a whole. It is important for universities to provide resources and support systems for students who are struggling with their majors, such as academic advisors or counseling services. By addressing these issues early on, colleges can help ensure that all students have a positive and fulfilling educational experience. Furthermore, "the society having to improve students' satisfaction with their study areas," has become a problem of colleges and universities. This has become a key issue that colleges and universities must change. The low level of academic major satisfaction leads to student depression and psychological strain.

Overall, our findings are as follows:

First, most of the students' academic majors have been determined before they came to the campus and not on a voluntary basis. College students' autonomy is not strong in the college entrance examination application, and the majority of students understand little or nothing about the academic majors of university when "they" make the decision.

Second, the students lack society or parents to provide effective advice and guidance. Almost all student guidance is provided by the advice of parents or relatives, who naively think that the so-called "popular professional" is a good academic major. Almost all the experts regard employment as the only index to measure each academic major. In the process of selecting the academic major they seldom considered student's own qualities and strength in a certain area.

Third, the inadequacy of an effective solution in the Chinese college student cultivation system results in difficulties for students to make informed choices prior to entering college or change their academic majors once enrolled, consequently leading to diminished satisfaction with their chosen fields of study and exerting a negative impact on mental well-being.

As previously mentioned, the current academic major selection mechanism in China has long been plagued by inherent issues, which significantly contribute to the conflict between a rational process and its corresponding outcome. Therefore, adjusting the whole academic major selection mechanism, increasing the possibility of students choosing desired study areas according to their own will, are the necessary and basic actions to solve this problem.

The government can consider five potential solutions: 1) Enhancing student autonomy in selecting their fields of study; 2) Expanding the options for students to change their academic majors or providing more opportunities for reselection; 3) Gradually implementing a new system for choosing academic majors through reforms in the current management system. Universities could adjust the timing of major selection to occur before admission, rather than after or with a delayed timeframe following admission. 4) Establishing a mechanism where high school graduates receive guidance on how to choose an academic major in college. 5) Balancing teacher resources and enhancing students' practical skills.

After such changes are made, Chinese college students will acquire a more comprehensive understanding and mastery of selecting their field of study, thereby enhancing the likelihood of student satisfaction as well as their mental well-being.

## Conclusion

The research shed light on the potential impact of academic major satisfaction on students' overall well-being. It revealed

that when college students are satisfied with their chosen majors, they tend to experience higher levels of happiness and fulfillment in both their academic and personal lives.

One possible explanation for this association is that when students feel content with their majors, they are more likely to engage actively in their coursework and extracurricular activities. This active involvement can lead to a sense of purpose and accomplishment, which in turn boosts self-esteem and reduces feelings of psychological strain.

Moreover, being satisfied with one's academic major may also positively influence social behaviors among college students. When individuals are passionate about what they study, they often seek out opportunities to connect with like-minded peers who share similar interests. This can foster a supportive network of friends and mentors within the same field, providing a sense of belonging and camaraderie.

In conclusion, this research highlights the significant associations between academic major satisfaction and mental health indicators among college students. The findings suggest that being content with one's chosen major not only contributes to higher self-esteem but also reduces psychological strain. Furthermore, it may positively influence both academic performance and social behaviors by fostering engagement, motivation, and a sense of belonging within the chosen field of study.

Due to the limitations of the data, we cannot know whether there is mutual causation between major selection and mental health outcomes. The self-reported psychological strain may also produce some influence on the results. The sample in our study is from a key university in Beijing, China, and represents only a highly ranked university in China, which may result in sample bias. Future studies may need to include other schools in other provinces of China in order to increase the external validities of the findings.

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