Does MBTI Influence Academic Major, Academic Performance, and Career Decision-Making in Chinese First-Year University Students?

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Abstract

In recent years, Chinese Generation Z has shown a strong enthusiasm for the Myers-Briggs Type Indicator (MBTI), often attributing academic or life challenges to their MBTI personality types. This study aims to explore the effects of MBTI on academic major selection, academic performance, and career decision-making among first-year university students in China. Data were collected from 203 freshmen across seven majors at a comprehensive university in Guangdong Province using MBTI personality test scales, peer evaluations, and an open-ended career decision questionnaire. Statistical and correlation analyses were conducted using SPSS 27. The findings revealed that: (1) the Judging/Perceiving dimension is significantly correlated with structured disciplines; (2) Intuitive students tend to perform better academically; and (3) MBTI has a limited impact on career decision-making. These results suggest that while MBTI can offer insights into student preferences, its predictive power is constrained, especially in culturally and societally influenced contexts. Educators should take these factors into account when utilizing MBTI in academic settings and encourage students to explore career paths beyond their perceived personality constraints.

Keywords: MBTI; Academic Major; Academic Performance; Career Decision-making.

The Myers-Briggs Type Indicator (MBTI) is a globally recognized tool that is used in 115 countries and 29 languages, and it has been used by 88 of the Fortune in recent years (Choong & Varathan, 2021); millions of people have taken the assessment each year, and it is used widely in education, career counseling, and organizational development to understand personality dynamics (Yang, 2022). In China, Generation Z has widely embraced MBTI, viewing it as a cultural tool that reflects personal identity and self-awareness. The popularity of MBTI is amplified by social media platforms, and many students attribute their academic and life challenges to their MBTI personality type (Wang et al., 2024). As these students enroll in universities, freshmen often face uncertainty in their academic majors and making career decisions, which is a critical process for their future success. This study examines the relationship between MBTI and academic major, academic performance, and career decision-making in Chinese first-year

university students. It explores the role of this popular tool in shaping their educational and professional paths.

Related Work

2.1 Overview of the MBTI (Myers-Briggs Type Indicator)

The Myers-Briggs Type Indicator (MBTI) was a self-reported questionnaire developed by Isabel Myers and Katherine Briggs, rooted in Carl Jung's theory (Jung,1971) of psychological types in 1998. It is widely used to measure and describe people's mental activity patterns and behavioral preferences regarding energy sources, access to information, making decisions, and dealing with life (Zong, 2021).

The MBTI includes a 94-item forced-choice questionnaire that categorizes each person into four "dichotomies," or dimensions, which are thought to correspond to different aspects of personality (Myers et al., 1998). Each dichotomy allows for two "preferences" or values that focus on four aspects of human personality: how they focus attention, how they absorb information, how they make decisions after taking in information, and how they deal with the world (King & Mason, 2020).

Table 1. MBTI Dichotomy

Description	Dimension	Description
Extrovert (E): They tend to focus on the external world, gaining energy from acting and feeling drained by introspection	**Attention Orientation Extraversion (E)-Introversion (I)**	**Introvert (I):** They tend to focus on their inner world, where energy is lost in action and gained in introspection.
Sensing (S): These individuals rely mainly on their five senses to process information in a systematic, sequential manner.	**Information Absorption, Sensing (S)-Intuition (N)**	**Intuition (N):** These individuals can absorb information in a holistic way and view it within a broader context.
Feeling (F): Those who are more willing to rely on thinking differently and putting themselves in their shoes will try to understand everyone's point of view and make decisions that benefit all parties involved.	**Decision-Making Feeling (F)-Thinking (T)**	**Thinking (T):** These individuals strive to stay as objective and rational as possible, distancing themselves from the situation to approach it with logical and analytical reasoning.
Judging (J): These individuals prefer to choose a way to proceed and put it into practice, making decisions and executing them in an organized manner.	**Interaction with the World: Judging (J)-Perceiving (P)**	**Perceiving (P):** They prefer to gather extensive information before acting, remaining open to different options and considering all possibilities before deciding.

Source: King, S. P., & Mason, B. A. (2020). Myers-Briggs Type Indicator. In B. J. Carducci, C. S. Nave, J. S. Mio, & R. E. Riggio (Eds.), The Wiley Encyclopedia of Personality and Individual Differences (1st ed., pp. 315–319). Wiley. https://doi.org/10.1002/9781119547167.ch123

The MBTI system describes everyone's personality type using four dichotomous variables, resulting in sixteen possible personality types, each with distinctive characteristics (Chen & Shen, 2018). For example, an ISTJ (Introversion-Sensing-Thinking-Judging) type tends to be introverted, focused on how the external environment affects them, gathers information primarily through sensing, makes decisions based on logic and analysis, and prefers to approach tasks in a structured and planned manner. In contrast, an ISTP (Introversion-Sensing-Thinking-Perceiving) type shares the first three dimensions with ISTJs but differs significantly due to the Perceiving dimension. ISTP individuals prefer a more flexible approach, adapting to their environment, making allowances for change, and favoring a less structured, more spontaneous lifestyle. Thus, the MBTI model effectively

categorizes the distinct traits associated with each of the 16 personality types.

2.2 Relevance of MBTI in educational and career settings

For university students, selecting a promising major, maintaining strong academic performance, and securing a fulfilling job post-graduation are among the most critical life trajectories. What role does personality play in this critical journey? Many scholars, education experts, and sociologists have conducted extensive research on this topic, leading to varying conclusions for students of different ages, majors, and geographical regions.

1）MBTI and Academic Major

Every university student is required to choose an academic major as part of their education. An academic major is described as "a subject or field of study selected by a student to reflect their primary interest, where a substantial amount of their efforts is focused" (Fenner, 2013). Students receive an undergraduate degree upon completing the requirements of their chosen major.

In research exploring the relationship between MBTI and college students' choice of major, scholars have employed empirical studies to determine whether different MBTI personality types significantly influence major selection. For example, Canadian scholar Rosati found that personality traits were significantly related to major selection, with the engineering program at the University of Western Ontario attracting more ISTJ personality types (Rosati, 1998). M. Ayoubi and Ustwan (2014) highlighted that the MBTI dichotomies were significantly associated with students' major selection. For example, there are more Sensing (S) students in the Faculties of Education, Sciences, and Physics, while Intuitive (N) students are more prevalent in the Faculty of Fine Arts. Another study found a significant association between the choice of engineering specialization (e.g., electrical, mechanical) and students' personality traits (Khan, 2024). However, some studies have found no significant relationship between personality type and the choice of major (Pollock, 2001; Kemboi et al., 2016).

These inconsistencies highlight the need for further investigation, particularly in non-Western contexts where cultural factors may play a more significant role. This study addresses this gap by focusing on Chinese first-year university students, particularly Gen Z students from various disciplines (e.g., business, engineering, physics, education, arts), reflecting similar trends as they begin their university education and engage with MBTI. This leads to the first research question: Does MBTI influence first-year university students' academic majors?

2) MBTI and Academic Performance

Academic performance is typically measured by grade point average (GPA), standardized test scores, and educational goals and achievements. Farb and Matjasko (2012) reviewed 24 recent studies, which defined academic performance through grades, academic attitudes (such as enjoyment of school, desire to attend, and school connectedness), as well as academic aspirations. This study will utilize grades as the primary indicator of academic performance.

Existing studies have yielded varying conclusions regarding the correlation between MBTI personality types and students' academic performance. Some studies suggest that different MBTI types may influence students' learning styles and, consequently, their academic performance (Kaewkiriya & Viroonluecha, 2019). For example, Ciorbea and Pasarica (2013) found that students with a Judging (J) preference are more likely to achieve higher academic results compared to students with a Perceiving (P) preference (Ciorbea & Pasarica, 2013; Kim & Han, 2014). In addition, Khan (2024) found that students with the INTJ personality type (Introverted, intuitive, thinking, and judging) were more likely to experience academic success. Another study in China showed that ENFP and ISTJ positively influenced college students' academic performance (Ke, 2024). On the other hand, the latest study has also shown no substantial correlation between MBTI type and

academic achievement (Hipolito et al., 2023). These differences may be related to differences in research methodology, sample groups, and cultural backgrounds, especially in the Chinese educational environment, and the effect of MBTI on academic performance still needs to be further verified.

Given the above, the second research question is: Does MBTI influence academic performance in first-year university students?

3) MBTI and Career Decision-making

Career decision-making is a series of cognitive processes and behaviors in which a decision-maker chooses a career that meets their needs and societal expectations as a public commitment based on information about the self and the career, considering the career environment and outlook (Jepsen & Dilley, 1974).

In the field of research on career decision-making, the MBTI has become a commonly used tool to help students better understand their career preferences and choices. Kemboi et al. (2016) found that "intuitive" students focused more on the future potential of a career in their career choices, whereas "sensory " students valued career stability and realism more. In addition, 'Thinking' students favor rational analysis and logical reasoning in decision-making, while 'Feeling' students rely on personal values and emotional factors (Ismail et al., 2017). However, despite the significant role of the MBTI in career decision-making, studies have shown that more than the MBTI alone is required to fully predict students' career choices (Kin & Rameli, 2020). Especially in China, where career decision-making is influenced by multiple factors, such as family expectations and social environment (Zhang, 2019), the extent to which MBTI influences career decision-making among Chinese students still requires in-depth research.

Therefore, the third research question is: Does MBTI influence career decision-making in first-year university students?

Methods

3.1 Study Design

This study analyzed data collected from a required general education course involving 203 freshmen, aged 18-19, across seven different majors from the class of 2023 at the S campus of a comprehensive university in Guangdong Province. The students' academic majors included Big Data (BD), Internet of Things Engineering (ITE), Materials Physics (MP), Energy Storage (ES), Business, Scientific Education (SE), and Art. All students in the researcher's class completed the MBTI Assessment. Based on these results, students were grouped to complete their assignments, which were peer-graded to evaluate academic performance throughout the instructional process. In addition, an online open-ended questionnaire was used to complete an assessment of career decision-making content during the program. Students take the MBTI assessment at the beginning of the course and complete the Career Decision-making Questionnaire during the course semester and the peer rating at the end of the course.

3.2 Study Instruments

The study employed the Chinese version of the MBTI, which has been validated for use with Chinese university students (Zeng & Zhang, 2006). This version demonstrated high reliability, with Cronbach's alpha scores of 0.62 for T/F, 0.75 for E/I, S/N and J/P, respectively, providing support for the instrument's utility in studying college student populations (Randall et al., 2017).

Due to the large size of classes in mainland China universities, with the number of students in each class around 100-150, such a size of people cannot fulfill the group work according to the optimal group size of 5-6 people suggested by Bielikova and Navrat (2004). To promote cooperation among group members and increase group work efficiency, 203 students in two classes were grouped according to the recommendations of O'Neil and Petty's (2019)

MBTI compatibility, 12 groups of 8-12 students in each class. Group work was completed throughout the course, requiring students to collaborate to produce microfilm related to the course content and to present 1-2 group pieces weekly in class. Originality and full participation were emphasized. Grading was determined by peer evaluation, with scores for each project averaged from the ratings given by students in other groups.

Career decision-making was assessed through a single-item online, open-ended questionnaire with one question: "Do you currently have a clear plan for your career after graduation? If yes, please describe your ideal career goals and how you plan to achieve them." Responses were coded into five distinct categories: STEM, Education and Social Services, Business, Creative Arts, and Undecided.

3.3 Data Analysis

In the spring of 2024, data on personality types, group grades, and career decisions were retrieved, coded, and analyzed for both classes. Demographic information, in terms of gender and major, was also gathered. All data for this study were gathered by WENJUANXING website and analyzed using IBM SPSS Statistics for Mac, version 27.0. Statistical analyses, including descriptive statistics, Pearson correlation, and Chi-Square tests, were employed to examine the relationships between MBTI types and academic performance, dichotomies (e.g., E vs. I) and academic performance, MBTI types and majors, dichotomies and majors, MBTI types and career decisions, and dichotomies and career decisions.

Results

4.1 Academic Major and MBTI

The study analyzed the academic majors and MBTI personality types of 203 students in the researcher's class. Demographic data showed an almost equal distribution of male and female students, with 104 males and 99 females. Table 1 presents the distribution of male and female students across the seven academic majors.

Table 2. Distribution of study sample according to academic major and gender

Academic Major	Male	Female	Total
BD	25	10	35
ITE	14	11	25
MP	11	4	15
ES	16	1	17
Business	20	13	33
SE	11	42	53
Art	7	18	25
Total	104	99	203

Notes: Major：BD- Big Data, ITE-Internet of Things Engineering, MP-Materials Physics, ES-Energy Storage, SE-Scientific Education

Figure 1 shows the distribution of MBTI personality types among the 203 students. Out of the 16 possible personality types, the most common among these students were INFJ (23%), ENFJ (16%), and INFP (16%). Notably, INFJ (23%), ENFJ (16%), and INFP (16%) were the most common types, while no students were identified as ESTP.

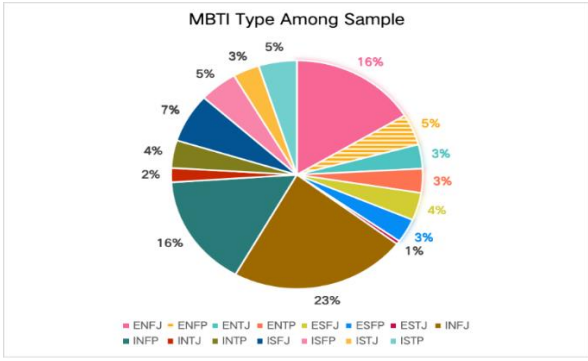

Figure 1. Distribution of the MBTI types in the research sample(N=203)

Table 3. Distribution of MBTI types in different majors

MBTI Type	BD	ITE	MP	ES	Business	SE	Art	Total
ENFJ	6	2	2	4	2	10	7	33
ENFP	2	2	1	0	1	2	1	9
ENTJ	0	0	0	1	2	2	2	7
ENTP	1	3	0	0	3	0	0	7
ESFJ	4	1	0	1	2	0	0	8
ESFP	2	2	0	0	2	1	0	7
ESTJ	0	0	0	0	0	0	1	1
INFJ	6	4	5	8	6	12	5	46
INFP	6	3	3	0	6	10	4	32
INTJ	1	0	0	1	0	2	0	4
INTP	1	1	0	1	2	2	1	8
ISFJ	3	1	2	1	2	5	0	14
ISFP	2	2	0	0	2	2	2	10
ISTJ	0	3	1	0	1	2	0	7
ISTP	1	1	1	0	2	3	2	10
Total	35	25	15	17	33	53	25	203

Notes: Major : BD- Big Data, ITE-Internet of Things Engineering, MP-Materials Physics, ES-Energy Storage, SE-Scientific Education

According to Table 3, the researcher did the Chi-Square Tests to evaluate the relationship between 16 MBTI types and academic majors (see Table 4)

Table 4. Chi -Square Tests of MBTI types and Academic Major

	Value	df	Sig.(Two-tailed)
Pearson Chi-Square	79.071[α]	84	0.632
Likelihood Ratio	90.88	84	0.285
Linear-by-Linear Association	0.004	1	0.948
Number of Valid Cases	203		

According to Table 4, the Chi-Square test revealed no significant association between academic major and the 16 MBTI types, $\chi 2(84, N=203) = 79.071$, $p = 0.632$ ($p < 0.05$).

Nevertheless, at the dichotomy level (E-I, S-N, T-F, J-P), the most common were introversion (64.53%), intuition (71.92%), feeling (78.33%), and judging (59.11%). The complete list is presented in Table 5.

Table 5. Percentage of MBTI Dichotomy Level Based on Academic Major

Major	E	I	S	N	T	F	J	P
BD	15	20	12	23	4	31	20	15
	42.90%	57.10%	34.30%	65.70%	11.40%	88.60%	57.10%	42.90%
ITE	10	15	10	15	8	17	11	14
	40.00%	60.00%	40.00%	60.00%	32.00%	68.00%	44.00%	56.00%
MP	3	12	4	11	2	13	10	5
	20.00%	80.00%	26.70%	73.30%	13.30%	86.70%	66.70%	33.30%
ES	6	11	2	15	3	14	16	1
	35.30%	64.70%	11.80%	88.20%	17.60%	82.40%	94.10%	5.90%
Business	12	21	11	22	10	23	15	18
	36.40%	63.60%	33.30%	66.70%	30.30%	69.70%	45.50%	54.50%
SE	15	38	13	40	11	42	33	20
	28.30%	71.70%	24.50%	75.50%	20.80%	79.20%	62.30%	37.70%
Art	11	14	5	20	6	19	15	10
	44.00%	56.00%	20.00%	80.00%	24.00%	76.00%	60.00%	40.00%
Total	72	131	57	146	44	159	120	83
	35.50%	64.50%	28.10%	71.90%	21.70%	78.30%	59.10%	40.90%

Notes: Major：BD- Big Data, ITE-Internet of Things Engineering, MP-Materials Physics, ES-Energy Storage, SE-Scientific Education

Table 5 shows significant differences in the dichotomy distributions across specializations. Big Data majors have a higher proportion of Type F, while Materials Physics and Science Education majors are predominantly Type I, N, F, and J. Energy Storage and Art majors are largely Type N, F, and J, whereas Business majors primarily consist of Type I, N, and F students. Based on Table 5, Chi-Square Tests were conducted to evaluate the relationship between MBTI dichotomy types and academic majors (see Table 6).

Table 6. Chi-Square Tests of MBTI Dichotomy Types and Academic Major

Dimension	Value	df	Sig. (Two-tailed)
E/I	4.623a	6	0.593
S/N	6.272a	6	0.393
T/F	6.065a	6	0.416
J/P	14.164a	6	0.028
Number of Valid Cases		203	

$P < 0.05$

Table 6 shows that there is no strong association with both academic major and the dimensions of E/I (Extraversion/Introversion), S/N (Sensing/Intuition), and T/F (Thinking/Feeling), as for p-values of 0.593, 0.393, and 0.416, respectively, all higher than 0.05. However, the J/P (Judging/Perceiving) dimension has a p-value of 0.028, noting a favorable connection between academic majors and this dimension.

4.2 MBTI and Academic Performance

As the course progressed, students' group work was presented sequentially alongside the lectures, with each piece receiving a score from other group members.

Considering the Chinese Confucian culture of "harmony," even though grading was anonymous, peers were reluctant to give harsh evaluations, resulting in generally higher scores, as shown in Table 7.

Table 7. Descriptive Statistics of Sample's Academic Performance

	N	Min	Max	Mean	SD	SD^2
Grades	203	83.3	96.7	88.558	3.366	11.33

After examining the distribution of overall student performance, we will analyze the relationship between students' MBTI types and their academic performance to gain insights into their academic behavior from a personality perspective.

Table 8. Correlation Between 16 MBTI Dichotomy Types and Academic Performance

	N	Mean	SD	r	Sig.(Two-tailed)
Grades	203	88.558	3.366	-.247**	<.001

* p < .05, ** p < .01, N=203

The Pearson correlation results indicate a significant negative correlation between the 16 MBTI types and students' grades. The Pearson correlation coefficient is -0.247 ($p < 0.01$), suggesting that the relationship is statistically significant. Although statistically significant, the correlation coefficient is relatively modest, indicating a weak negative linear relationship. To further explore the personality factors impacting student academic performance, the MBTI dichotomy approach will be employed for analysis (see Table 9).

Table 9. Correlation Between MBTI Dichotomy Types and Academic Performance

Dimension	r	Sig.(Two-tailed)
E/I	0.103	0.142
S/N	-.337**	<.001
T/F	-0.038	0.592
J/P	0.12	0.088

* p < .05, ** p < .01, N=203

Table 9 presents Pearson's correlation coefficients and their significance levels between the MBTI dimensions (E/I, S/N, T/F, J/P) and students' grades. There is no significant correlation between the E/I (Extraversion/Introversion) dimension and student achievement ($p = 0.142$), although extroverted students slightly outperform their introverted peers, as indicated by a positive coefficient of 0.103. In contrast, the S/N (Sensing/Intuition) dimension shows a significant negative correlation with achievement ($p < 0.001$, $r = -0.337$), indicating that sensing students outperform their intuitive counterparts. The T/F (Thinking/Feeling) dimension exhibits an almost negligible and non-significant correlation with achievement ($p = 0.592$, $r = -0.038$). Lastly, the J/P (Judging/Perceiving) dimension shows a near-significant positive correlation ($p = 0.088$, $r = 0.120$), suggesting that judging students may achieve slightly higher grades than perceiving students. However, this difference is not statistically significant.

Therefore, only the S/N dimension significantly correlates negatively with academic performance. The other three dimensions (E/I, T/F, J/P) do not show significant correlations with student achievement, suggesting that these personality dimensions may have a smaller impact on academic performance or that the sample may lack sufficient variation to demonstrate significance.

4.3 MBTI and Career Decision-Making

A total of 203 students completed a survey on career decision-making as part of a required assignment. The survey was conducted online and included fields for name, major, and an open-ended question: "Do you currently have a clear plan for your career after graduation? If yes, please describe your ideal career goals and how you can achieve them." All 203 questionnaires were returned and subsequently categorized and coded into five distinct

categories: Category A (STEM) includes engineers, scientists, doctors, and investment analysts; Category B (Education and Social Services) includes teachers, police officers, lawyers, psychologists, and civil servants; Category C (Business and Management) includes managers and entrepreneurs; Category D (Creative and Arts) includes painters, photographers, designers, artists, writers, and freelancers; and Category E (Unknown). The analysis results are as follows:

Table 10. Distribution of Career Decision-Making in Different Academic Majors

Major	Category A	Category B	Category C	Category D	Category E	Total
BD	19	6	3	4	3	35
ITE	15	4	1	4	1	25
MP	8	5	0	1	1	15
ES	10	2	1	2	2	17
Business	11	6	4	3	9	33
SE	8	36	2	6	1	53
Art	0	4	2	15	4	25
Total	71	63	13	35	21	203

Notes: Major： BD- Big Data, ITE-Internet of Things Engineering, MP-Materials Physics, ES-Energy Storage, SE-Scientific Education
Category: Category A -STEM, Category B- Education and Social Service, Category C -Business and Management), Category D -Creative and Arts, and Category E -unknown.

Table 10 shows that of the 203 first-year students, 30% aspire to work in STEM professions; 63 aims for careers in Education and Social Services; 13 intend to enter the corporate world or start a business; 35 are interested in Creative and Artistic professions; and 21 students are undecided. This indicates a significant difference in career decision-making among students from different majors, with most students in engineering-related majors (BD, ITE, MP, and ES) opting to become engineers in the future. In contrast, most students majoring in scientific education aspire to become teachers, while most art majors intend to pursue careers as artists. Some students argue that their MBTI type determines their career choices. Is that true? The following analysis will explore this claim.

Table 11. Distribution of Career Decision-Making in MBTI Types

MBTI Type	Category A	Category B	Category C	Category D	Category E	Total
ENFJ	8	12	2	10	1	33
ENFP	7	0	1	0	1	9
ENTJ	3	2	1	1	0	7
ENTP	2	1	0	2	2	7
ESFJ	5	2	1	0	0	8
ESFP	4	2	1	0	0	7
ESTJ	0	0	0	0	1	1
INFJ	19	16	1	5	5	46
INFP	12	9	2	5	4	32
INTJ	2	2	0	0	0	4
INTP	3	1	0	2	2	8
ISFJ	2	6	1	3	2	14
ISFP	1	2	1	4	2	10
ISTP	2	4	1	0	0	7
ISTP	1	4	1	3	1	10

Total	71	63	13	35	21	203

Notes: N=203

Category: Category A -STEM, Category B- Education and Social Service, Category C -Business and Management), Category D -Creative and Artist, and Category E -unknown

Table 11 illustrates the diversity in career decision-making across different MBTI types. Over half of ENTP (77.8%), ESTP (62.5%), ESFP (57.1%), and INTJ (50%) students favor STEM fields, while INTJ (50%) and ISTJ (57.1%) students prefer careers in Education and Social Services. Other types are dispersed across various career paths. The "Unknown" category is also randomly distributed among different types, suggesting that approximately one-tenth of students' career paths are undecided or untracked.

Table 12. Chi-Square Tests of MBTI Types and Career Decision-making

	Value	df	Sig. (Two-tailed)
Pearson Chi-Square	63.323[a]	56	0.234
Likelihood Ratio	70.265	56	0.095
Number of Valid Cases	203		

$P < 0.05$

Table 12 shows examined the association results of Chi-Square test, which with both MBTI types and career decision-making outcomes. The Pearson Chi-Square statistic is 63.323 (56 degrees of freedom). The associated p-value (Sig. Two-tailed) is 0.095, which is significantly greater than the threshold of 0.05. This suggests that there is no statistical correlation between students' MBTI types and their career decision-making, implying that any observed differences in career decision-making across MBTI types are more likely due to chance than a genuine underlying effect.

Table 13. Distribution of Career Decision-Making in MBTI Dichotomy

MBTI Dimension	Category A	Category B	Category C	Category D	Category E	Total
E	29	19	6	13	5	72
	40.30%	26.40%	8.30%	18.10%	6.90%	100.00%
I	42	44	7	22	16	131
	32.10%	33.60%	5.30%	16.80%	12.20%	100.00%
S	15	20	6	10	6	57
	26.30%	35.10%	10.50%	17.50%	10.50%	100.00%
N	56	43	7	25	15	146
	38.40%	29.50%	4.80%	17.10%	10.30%	100.00%
T	13	14	3	8	6	44
	29.50%	31.80%	6.80%	18.20%	13.60%	100.00%
F	58	49	10	27	15	159
	36.50%	30.80%	6.30%	17.00%	9.40%	100.00%
J	41	44	7	19	9	120
	34.20%	36.70%	5.80%	15.80%	7.50%	100.00%
P	30	19	6	16	12	83
	36.10%	22.90%	7.20%	19.30%	14.50%	100.00%

Note: N=203 Category: Category A -STEM, Category B- Education and Social Service, Category C -Business and Management), Category D -Creative and Arts, and Category E -unknown

Table 13 displays the distribution of dichotomous types. It is evident that, overall, the distribution of career decisions across various personality types is relatively even, with minimal differences among the 16 MBTI types. STEM, as well as Education and Social Service professions, remain popular across all MBTI dichotomies. Business and Management are the least chosen across all types, while the unknown category is evenly distributed, indicating that a significant portion of students are uncertain about their future career paths.

Table 14. Chi-Square Tests of MBTI Dichotomy and Career Decision-making

Dimension		Value	df	Sig.(Two-tailed)
E/I	Pearson Chi-Square	3.611[a]	4	0.461
	Likelihood Ratio	3.672	4	0.452
	Linear-by-Linear Association	0.835	1	0.361
S/N	Pearson Chi-Square	4.229[a]	4	0.376
	Likelihood Ratio	4.128	4	0.389
	Linear-by-Linear Association	0.806	1	0.369
T/F	Pearson Chi-Square	1.117[a]	4	0.892
	Likelihood Ratio	1.097	4	0.895
	Linear-by-Linear Association	0.912	1	0.34
J/P	Pearson Chi-Square	5.838[a]	4	0.212
	Likelihood Ratio	5.893	4	0.207
	Linear-by-Linear Association	1.9	1	0.168

$P < 0.05$, N= 203

Table 14 presents the results of Chi-Square tests conducted to determine whether statistically significant associations exist between MBTI dichotomies (e.g., Extraversion vs. Introversion, Sensing vs. Intuition, etc.) and career decision-making. The p-values for E/I, S/N, T/F, and J/P, all exceeding 0.05, suggest that no significant association exists between the MBTI dichotomies and career decision-making.

Discussion

This study aimed to explore the relationship between MBTI personality types and university freshmen's academic majors, academic performance, and career decision-making. The research involved 203 Generation Z freshmen from seven different majors who were grouped based on their MBTI types to analyze the associations using statistical descriptions and correlations. The results revealed three key findings: (1) There is no significant relationship between the 16 MBTI types and academic majors, but a significant association exists between the J/P dimension and academic majors. (2) A significant negative correlation exists between the 16 MBTI types and students' academic performance, with the S/N dimension showing a significant negative correlation with academic performance. (3) No statistically significant relationship exists between MBTI and career decision-making.

1) Relationship Between MBTI Types and Academic Majors

Among the 16 MBTI personality types, 15 were identified among the participating students. The most common types were INFJ (23%), ENFJ (16%), and INFP (16%), with no students classified as ESTP. The students were more likely to be Introverted (64.5%), Intuitive (71.9%), Feeling (78.3%), and Judging (59.1%).

Similar to previous studies, the current research did not suggest a definitive relationship between academic specialization and MBTI personality type (Pollock, 2001; Kemboi et al., 2016). However, a significant association was found between the J/P dichotomy and the distribution of majors, contrasting with previous

claims that the S/N dichotomy influences major selection (Ayoubi & Ustwani, 2014).

Two possible explanations arise from these findings. First, some students may not have been admitted to their preferred majors and were transferred to other disciplines. Second, most of the 203 students were enrolled in engineering and science education majors. These fields inherently require a structured and methodical approach, qualities that align with the Judging (J) personality type, which favors planning, organization, and sequential execution of tasks (Kin & Rameli, 2020; Raza & Capretz, 2019). This relationship indicates that disciplines with structured, methodical approaches are more likely to attract Judging individuals who find such environments conducive to their preferred way of working (Rottinghaus et al., 2002). Establishing a strong correlation between MBTI dichotomies and academic majors may help predict future students' choice of major, potentially enhancing their academic performance (Ayoubi & Ustwani, 2014; Kin & Rameli, 2020).

2) MBTI and Academic Performance

The findings align with earlier studies suggesting a negative relationship between MBTI types and academic performance, possibly linked to specific personality traits (Chamorro-Premuzic & Furnham, 2003; Poropat, 2011; Ciorbea & Pasarica, 2013). Academic performance was assessed through peer ratings of group work, reflecting the innovation, creativity, unity, and collaboration within the group. Of the 50 group members with excellent work scores (above 90 out of 100), the majority were ENFJ (15) and INFJ (21). These personality types excel in verbal communication, analytical thinking, and logical organization, which likely contributed to their success in group work (Cuevas Paredes & Romeroso Arboleda, 2024; Drenth, 2023).

Notably, all 50 high achievers were Intuitive (N) types, reinforcing the significant negative correlation between the S/N dimension and academic performance. Intuitive students are known for their ability to understand the meaning behind facts, conceptualize new ideas, and solve problems creatively, making them more likely to excel academically compared to Sensing types, who may struggle to meet academic expectations (Myers & McCaulley, 1985; O'Brien et al., 1998; Ayoubi & Ustwani, 2014; Li et al., 2018; McCaulley & Martin, 1995).

3) MBTI and Career Decision-Making

Although this study did not find a statistically significant relationship between MBTI types and career decision-making, it is essential to consider potential preferences and distributions between students' MBTI types and their ideal careers. For instance, INFJ, INFP, and ENFP types predominantly prefer careers in engineering and science, while also comprising a significant proportion of those aspiring to be teachers.

The distribution of Introverts among those aiming to be engineers, scientists, and teachers, and the widespread presence of Intuitive and Feeling types across various careers, suggest that personality traits do influence career preferences. However, in China, career decision-making is often influenced by familial expectations, societal norms, and the perceived prestige of certain professions, which can overshadow individual personality traits (Wang et al., 2023). The national focus on high-tech industries and the career-oriented education in normal universities may drive students' preferences toward STEM and teaching professions, regardless of their MBTI types.

Furthermore, the desire for further education among students, whether they have clear career aspirations, reflects the common phenomenon in research universities where students aim to enhance their qualifications and research capabilities. This trend diverges from findings in other studies, where Sensors predominantly sought graduate education (Ayoubi & Ustwani, 2014). In China, this decision is often driven by external pressures rather than personality traits, with some students using graduate school to delay entering the workforce and increase their

employment competitiveness (Mulvey & Wright, 2022).

While the MBTI may not directly influence career decision-making, it offers valuable insights into personal preferences. However, understanding students' career decision-making processes requires consideration of cultural and societal influences alongside personality assessments.

Conclusion

This study explored the relationship between MBTI personality types and academic majors, academic performance, and career decision-making among Chinese first-year university students. The findings indicate a significant relationship exists between the Judging/Perceiving dimension and the academic major, and the intuitive students outperforming their sensing counterparts in academic performance. However, MBTI types did not significantly impact career decision-making statistically, likely due to the strong influence of cultural and societal factors in China. The findings suggest that while MBTI can provide insights into students' academic preferences, its utility in predicting career paths may be limited in certain cultural contexts. This research suggests teachers enhance students' academic performance through personality grouping. It helps students move beyond MBTI stereotypes, encouraging them to take a more active role in their learning and career planning.

In the end, some words from McCaulley & Martin (1995) shared to students: "The difference between a student's dream career and their personality type should never discourage them from pursuing their aspirations. Instead, it should spark a conversation about the importance of actively exploring the dream career in real life, embracing challenges intentionally, and determining whether it truly brings the expected fulfillment." This sentiment emphasizes the importance of balancing self-awareness with proactive exploration in pursuing career fulfillment.

Limitation

This study has a few limitations that should be noted. Firstly, the sample consisted of 203 students from a single campus, representing only seven majors, and it lacked representation from the ESTP personality type. This limitation raises concerns about the representativeness of the study's academic major types and personality types. Secondly, the large class sizes led to larger group sizes for assignments, which may have allowed some students to contribute less while still benefiting from the group's overall good performance. This could have skewed the results related to academic performance (Zhang et al., 2012). Additionally, the fact that the study was conducted at a normal university might have influenced the students' career preferences, particularly their inclination toward education-related careers.

Future research should seek to incorporate a more diverse sample, including students from different academic disciplines, grade levels, and institutions. Longitudinal studies could provide deeper insights into how MBTI personality types influence academic and career outcomes across different educational contexts.

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