

Choosing the wrong major: what is the profile of students who feel they have chosen the wrong major ?

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Abstract: This study aims to identify the main factors in the selection of majors in college. There were 1283 participants consisting of first, second, and third year students from various universities in Indonesia, both public and private. The research approach was non-experimental quantitative using descriptive and inferential statistics. The results showed that almost 30% of students felt that they chose the wrong major. Those who felt they chose the wrong major had lower knowledge domain ($\mu = 42.67$; $t = 20.376$, $p < 0.05$) and help-seeking behavior ($\mu = 47.89$; $t = 5.336$, $p < 0.05$) compared to those who felt they chose the right major. Based on the type of university, 274 students from public universities (72.29%) and 105 students from private universities (27.71%). The conclusion was that students who felt they had the wrong major did not have adequate Self Knowledge and Occupational Knowledge. Their need to seek help has not been accompanied by sufficient knowledge about themselves and their intended careers, hence students need to be proactive in gaining knowledge from credible sources. This study mapped the factors that influenced major selection and thus guidance on major selection since high school should be considered.

Keywords: major; mis-major; self-knowledge; job knowledge; help-seeking.

Abstrak: Penelitian ini bertujuan mengidentifikasi faktor utama dalam pemilihan jurusan di Perguruan Tinggi. Partisipan sebanyak 1283 mahasiswa yang studi tahun pertama, kedua, dan ketiga dari universitas-universitas di Indonesia, baik negeri maupun swasta. Pendekatan penelitian ini adalah kuantitatif non-eksperimental digunakan dengan statistik deskriptif dan inferensial. Hasil penelitian menunjukkan hampir 30% mahasiswa merasa salah memilih jurusan. Mereka yang merasa salah jurusan memiliki *knowledge domain* ($\mu = 42,67$; $t = 20,376$, $p < 0,05$) dan *help-seeking behavior* ($\mu = 47,89$; $t = 5,336$, $p < 0,05$) lebih rendah dibandingkan dengan yang merasa jurusan tepat. Berdasarkan jenis perguruan tinggi, 274 mahasiswa dari perguruan tinggi negeri (72,29%) dan 105 mahasiswa dari perguruan tinggi swasta (27,71%). Kesimpulannya adalah mahasiswa yang merasa memilih salah jurusan kurang memiliki *Self-Knowledge* dan *Occupational Knowledge* memadai. Kebutuhannya untuk mencari bantuan belum disertai dengan pengetahuan yang cukup mengenai diri sendiri dan pekerjaan, sehingga mahasiswa perlu proaktif memperoleh pengetahuan dari sumber kredibel. Penelitian ini memetakan faktor-faktor yang memengaruhi pemilihan jurusan sehingga bimbingan pemilihan jurusan sejak SMA perlu dipertimbangkan.

Kata kunci: Jurusan; Salah Jurusan; Pengetahuan Diri; Pengetahuan Pekerjaan; Mencari Bantuan.

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INTRODUCTION

The choice of major is an important decision related to career development (Germeijs et al., 2012). Research at the Faculty of Teacher Education and Training, Sebelas Maret University found that 25.5%, 33.5%, and 41.1% of students in the 2018-2020 batch agreed, neutral, and disagreed that they chose the wrong major. Students' confusion in determining majors is influenced by parental coercion, competition to enter universities, the suitability of lectures and the demands of the world of work, lack of information about learning and employment opportunities (Suharno et al., 2023). Many high school students in Indonesia also feel confused about deciding which further studies to take (Nurhartanto & Wengrum, 2021). The Minister of Education and Culture of the Republic of Indonesia (Kemendikbud) stated that almost 80% of graduates do not work in the field that matches their studies (Kasih, 2021). Social media expressed concerns regarding the selection of majors, supported by research findings that 87% of students experienced the wrong major (Folkative, 2021).

Super (in Germeijs et al., 2012) emphasized that major decision-making is a small cycle of a large cycle in career development. Thus, major selection is a challenging and difficult process to undertake (Vertsberger & Gati, 2016). Reardon, et.al. (in Savickas, 2002) visualized *The Pyramid of Cognitive Information Processing* (CIP) as a hierarchy including (1) *knowledge domain*, (2) *decision making skills domain*, dan (3) *executive processing domain*. The CIP approach emphasizes major decision making focusing on how the human brain works in receiving, encoding, storing, and utilizing information/knowledge to solve problems and make career/major decisions. Self-knowledge, occupational knowledge, and the process of analyzing information are both important in determining career paths (Abdullah, et.al., 2018).

Choosing a major involves two important components, which are (1) self-knowledge (SK) such as personal values, interests, and skills, and (2) occupational knowledge (OK) such as information about work, education, and activities that support this development (Reardon, et.al., 2017). This knowledge is used to make decisions through the process of recognizing problems and applying solutions (Peterson, et.al., 2002).

In order to obtain this information, students

need assistance in making major decisions. Research conducted in Israel on 254 university students showed that students seek assistance or support (support-seeking), especially with instrumental and emotional help-seeking as a strategy to overcome career confusion (Lipshits-Braziler et.al., 2017). Help-seeking is a way for someone to overcome their difficulties by utilizing sources of help based on their needs and level of difficulty. Support-seeking acts as a mediator between productive/unproductive career-related coping (Lipshits-Braziler et.al., 2019). Gati, Amir, and Landman (in Vertsberger & Gati, 2015) said that three types of assistance are sought in making major decisions, including professional, informal, and Information and Communication Technology (ICT-based) assistance. First, professional assistance is usually provided by career counselors to recognize the importance of the needs assessment stage and the difficulties faced by students (Gati et.al., 2010). Second, informal assistance is assistance obtained from parents, peers, or people who work in the related field (Dietrich, et.al., 2011). Lastly, ICT-based assistance is assistance from websites, online forums, and online questionnaires (Vertsberger & Gati, 2015). ICT-based assistance is important because schools or Universities provide information related to study programs through websites.

This research was conducted to map the profile of students in seeking information about themselves and work when determining majors. This research also provides information about the form of assistance chosen when making major decisions. This research is expected to contribute to the development of the form and quality of information needed by students when determining majors.

METHODS

This research used a non-experimental quantitative approach. The research data was collected through a questionnaire prepared by the author. The types of variables consisted of: (1) Categorical variables (demographic gender, university, education level, study period and provincial domicile); and (2) Continuum variables (knowledge domain and help-seeking behavior). Data were collected using online purposive sampling in Jabodetabek (Greater Jakarta area), the

Java Island, Bali, Kalimantan, NTB-NTT, Sulawesi, Sumatra, and Papua-West Papua.

In the knowledge domain, there were two aspects which included Self-Knowledge and Occupational Knowledge. SK (Self-Knowledge) is knowledge about oneself which includes personal values about the world of work, interests, and skills possessed. The three aspects of the SK were measured with nine question items and four Likert scales. Item example: "I know about my motives or reasons for choosing a major". The Alpha Cronbach reliability value of SK was 0.754.

OK is a person's knowledge of information related to work, education, and leisure activities that increase the quality of these areas (Reardon et al., 2017). A person's knowledge score regarding career and education information in a particular major/field (OK) was measured by eight questionnaire items and four Likert scales. Item example: "I know that my current major will support the job I choose in the future". The Alpha Cronbach reliability value of OK was 0.861.

Help-seeking behavior is how a person overcomes his difficulties by utilizing resources of assistance based on needs and level of difficulty (Vertsberger & Gati, 2015). The score showed how a person is oriented towards his/her career, and how he/she overcomes difficulties in determining a major/career through sources of help around such as family, friends, counselors, etc., which was measured by seven items and four response answers "Not Helpful" to "Very Helpful", with questionnaire items such as "How concerned are you with your choice of study program or college major?". The Alpha Cronbach Help-Seeking reliability value was 0.839.

Descriptive and inferential statistics were used to analyze the data. Descriptive analysis was used to process demographic data, while the relationship between studies used inferential analysis, especially for the t-test. In the t-test, the author used a significance criterion of 0.05 or 5% (p-value <0.05 or 95% confidence interval). If the p value was less than 0.05 ($p < 0.05$), then the null hypothesis was rejected, or vice versa.

RESULTS AND DISCUSSION

Participant Demographics

The initial study participants were 1354 and after data cleansing, there were only 1283

participants' data that could be analyzed. The characteristics of the study participants can be seen in Table 1.

Based on Table 1, the participants consisted of 68.1% women and 31.9% men. A total of 70.7% of participants came from state universities and 29.3% came from private universities. Based on the college major, the majority of 93.2% were undergraduate students (S1) and 6.8% were diploma students (D1 - D4). Based on study period, most participants were first-year students ($n = 37.9\%$) and least were fourth-year students ($n = 2.6\%$). Based on domicile, the majority of participants came from Sumatra ($n = 50.4\%$), followed by Jabodetabek ($n = 18.5\%$) and from outside Jabodetabek (within the Java Island) ($n = 19\%$).

Based on age demographics, the average age of participants was 19 years and 8 months ($SD = 1.19$), which was in accordance with the research target regarding the age of participants. There were almost 30% ($n = 379$) of participants who felt that they had chosen the wrong major, while the remaining 70% of participants felt that they had chosen the right major. Based on this 30% figure, almost 1/3 of the 1283 participants felt they had chosen the wrong major, which was obtained from the question "Do you feel you have chosen the wrong major?". This impacted on how earnest they were in their studies, and in the world of work they would choose. Therefore, it is important to know the factors that anticipate students choosing the wrong major.

Research Hypothesis Test

The author conducted a hypothesis test on the difference in the mean of Knowledge Domain (KD) and help seeking (HSQ) variables based on students feeling that they had the wrong major compared to not having the wrong major. The results can be seen in Table 2.

Based on Table 2, the mean value of domain knowledge of the group of students who felt they had the wrong major was 42.67 ($\mu = 42.67$), while students who did not feel they had the wrong major was 53.07 ($\mu = 53.07$). The mean difference was significant ($t = 20.376$; $df = 1281$; $p < .05$). This implied that students who did not feel mis-majored generally had better knowledge in their affairs, occupations, or abilities than students who felt mis-majored. Knowing the ins and outs of the intended major or field of study will avoid the risk of choosing the wrong major.

Based on Cognitive Information Processing (CIP) theory, the development of self-knowledge (SK) and occupational knowledge (OK) forms the basis of problem solving and career decision making. The formation of SK based on interpretation and reconstruction of personal experience takes place continuously and is stored in

episodic memory, while OK is formed from a collection of facts, concepts and relationships between work-related concepts stored in semantic memory (Savickas, 2022). The formation of both requires personal and occupational exploration to assist prospective students in determining their majors and occupation.

Table 1. Demographics of Participants

	Participants (n)	Percentage (%)	Mean	Standard Deviation
Gender				
Male	409	31.9		
Female	874	68.1		
Higher Education				
State Universities (PTN)	907	70.7		
Private Universities (PTS)	376	29.3		
Education Level				
Diploma	87	6.8		
Bachelor	1196	93.2		
Study Period				
1 st Year	486	37.9		
2 nd Year	334	26		
3 rd Year	430	33.5		
4 th Year	33	2.6		
Provincial Domicile				
Bali	13	1		
Jabodetabek Area (Jakarta, Bogor, Depok, Tangerang/Tangerang Selatan, Bekasi)	237	18.5		
Kalimantan	33	2.6		
Outside Jabodetabek (within the Java Island)	244	19		
NTB - NTT	21	1.6		
Papua - West Papua	57	4.4		
Sulawesi	31	2.4		
Sumatra	647	50.4		
Age			19.87	1.19
17	11	0.9		
18	134	10.4		
19	376	29.3		
20	381	29.7		
21	275	21.4		
22	82	6.4		
23	24	1.9		
Do you feel like you have the wrong major?				
Yes	103	8		
Maybe	276	21.5		
No	904	70.5		

On the help seeking variable, the mean value of the group of students who felt that they had the wrong major was 47.89 ($\mu = 47.89$), while not having the wrong major was 50.88 ($\mu = 50.88$). The mean difference was also significant ($t = 5.356$; $df = 1281$; $p < .05$). Students felt that they did not have the wrong major had more active behavior in seeking help/encouragement from people or facilities around them in determining their major. Generally, prospective students actively seek information about the majors available at the University and the job prospects of graduates of these majors. This is done before students choose a major in higher education, for example through education expos, workshops on college majors, and so on.

a. *Knowledge Domain*

The mean difference test of the knowledge domain consisted of Self-Knowledge (SK) and Occupational Knowledge (OK). Then the author also conducted a mean difference test from each aspect of the two variables. The results can be seen in Table 3.

Based on Table 3, all aspects of self-knowledge and occupational knowledge have significant differences. The most dominant difference is value and self-knowledge with a mean difference between those who have the wrong major and those who do not have the wrong major of 1.76 ($t = 18.2$, $df = 1281$, $p < .05$) and 4.1 ($t = 17.7$, $df = 1281$, $p < .05$), respectively. In general, students who felt they had the wrong major had a smaller mean value than those who did not. This indicated that students who felt they had the wrong major lacked knowledge related to themselves, the major, or the job they would choose. In research conducted by Abdullah et.al., (2018) it was found that there is a significant relationship between SK and Job Exploration with career decision making.

This finding was supported by the Social Cognitive Career Theory (SSCT) interest model which emphasizes that a person's belief in their abilities influences their interest and expected achievement in a career. Work-related personal values also play a role in career formation. Cognitive factors and individual experiences shape interest, which in turn motivates an individual to determine the skills they want to master. (Lent

et.al., 2002).

Both aspects are in the Self-Knowledge dimension, which means that self-knowledge is an important aspect of major decision making. Ravlin and Meglino (in Almeida & Pinto, 2004) added that life values are also an important aspect of career decision making. The process of knowing oneself shapes life values. (Atuahene, 2021). Since childhood, children were able to identify and assess the importance of the values that underlie them in determining careers (Savickas, 2002). The choice of major was not only influenced by one's interests, but also personal values (Wright, 2018). Many students failed to obtain sufficient information, understand the process of exploring the academic curriculum of their intended major, and the demands of the future workplace (Atuahene, 2021).

b. *Help-Seeking*

Furthermore, the authors also conducted a difference test on the profiles of students who felt they had the wrong major and not the wrong major based on General Career Orientations (GCO) and Perceived Effectiveness (PE) (see Table 4).

General Career Orientation (GCO)

Aspects of General Career Orientations (GCO) include concerns, perceived difficulty, and inclination to seek help. In the aspect of concerns and perceived difficulty, the average results of students who felt they have the wrong major compared to those who did not have the wrong major showed a significant difference of t-test = 21.564, $df = 1281$ ($p < .05$) and t-test = 7.091, $df = 1281$ ($p < .05$). This suggested that the concern aspect of students who did not feel they had the wrong major had a higher job orientation focus compared to students who had the wrong major. The concerns aspect is a concern or focus orientation towards future careers.

In the aspect of perceived difficulty, students who felt that they had the wrong major perceived that determining a major was more difficult than not having the wrong major. Career decision-making is correlated with beliefs about dysfunctional career decision-making, lack of self-awareness, and inconsistent information about internal/external difficulties (Yaghi & Alabed, 2021).

In the aspect of inclination to seek help,

there was no significant difference between students who felt that they had the wrong major and not the wrong major with a t-test value = 3.52, $df = 1281$ ($p > .05$). This indicated that the students actually sought help but did not have sufficient knowledge to help them make a decision. Lack of debriefing in high school may also cause students to find it difficult to determine the type of help they need (Vertsberger & Gati, 2016).

Perceived Effectiveness (PE)

In all aspects of perceived effectiveness (PE), there was a significant difference between the group of students who felt that they had the wrong major and not the wrong major. The most striking differences among these aspects were especially in the aspects of family and friends ($t = 5.296$, $df = 1281$, $p < .05$), school counselor ($t = 4.572$, $df = 1281$, $p < .05$), and online self-help questionnaire ($t = 4.192$,

$df = 1281$, $p < .05$).

Based on the results of the study, there were three types of assistances most needed by students in the process of determining the choice of major, which were (1) support from parents and friends; (2) assistance from school counselors; and (3) online self-help questionnaire services.

First, the support of parents and friends plays an important role in choosing a career. Parental requests, advice from family and friends, and the opportunity to enter college affect the determination of college major (Suharno et al., 2023). Parents' educational background and their understanding of education policy will support students in determining majors (Ali, 2018). Parents instilled certain values that underlie students when choosing a college major (Aryani & Umar, 2020). Friends, acquaintances, classmates or relatives play

Tabel 2. Profile of Students with Wrong Majors Based on Mean KD and HSQ Variables

Variables	Students with wrong major (μ)	Students not in the wrong major (μ)	t-test
Knowledge Domain	42.67	53.07	20.376** ($df = 1281$)
Help-Seeking	47.89	50.88	5.336** ($df = 1281$)

Description: **significant at 0.05 ($p < .05$)

Tabel 3. Profiles of Students with Wrong Majors Based on the Mean of SK and OK

Variables	Students with wrong major	Students not in wrong major	t-test
Self-Knowledge	24.8	28.9	17.7* ($df = 1281$)
Value	8.94	10.7	18.2* ($df = 1281$)
Interests	7.52	8.48	10.2* ($df = 1281$)
Skill	8.32	9.68	12.1* ($df = 1281$)
Occupational Knowledge	24	27.4	12.5* ($df = 1281$)
Major	12	13.8	12.9* ($df = 1281$)
Occupation	11.9	13.5	11.8* ($df = 1281$)

Description: **significant at 0.05 ($p < .05$)

a role in providing input and solving problems. Friends who are older and study with same interests serve as academic advisors regarding graduation requirements and programs of study (Wright, 2018).

Second, students need help from school counselors to choose a major that suits their interests and potential. The counselors in schools

are expected to (a) be friendly and welcoming, (b) have a thorough knowledge of students, (c) be responsive to students' questions, (d) be reliable, and (e) understand various career options (Hanimoglu, 2018). School counselors need to have advanced digital skills and literacy in technology, to keep the dissemination of career information up to date (Fadli et.al., 2019). The career counseling

process provides satisfaction for students in planning their future careers (Cimsir, 2019), for example, helping to recognize students' capacities, personalities, and interests (Hoa, 2018); providing access to appropriate information during exploration; and reducing anxiety in career selection (Gu, Tang et.al, 2020). However, many students lack knowledge related to counselor services in career counseling and guidance (Darwin, et.al., 2020).

Third, online self-questionnaire is a type of assistance that many students need to make decisions in choosing a major.

The development of technology supports students to search for ICT-based information

sources, such as online self-questionnaires related to interests, personality, and all relevant aspects regarding the selection of majors. (Vertsberger & Gati, 2015). Interest assessment can provide an overview of interests that help students to choose a major in college (Savickas, 2002). Previous research found that 51.81% of 2,131 participants took a series of psychological tests to help them determine the right major (Suharno et.al, 2023). One online self-help questionnaire, called Passiontrack, can provide an overview of Holland's interests and personality traits, which play a significant and consistent role in determining majors in middle and high school students (Roebianto, et.al., 2021).

Tabel 4. Profiles of Students with Wrong Majors Based on the Mean GCO Variables and PE

Variables	Students with wrong major	Students not in wrong major	T-test
General Career Orientation			
Concerns	3.38	4.4	21.564 (df=1281)**
Perceived Difficulty	3.65	3.16	-7.091 (df=1281)**
Inclination to seek Help	3.52	3.52	-0.068 (df=1281)
Perceived Effectiveness			
Family and Friend	3.01	3.26	5.296 (df=1281)**
Expert/Professional	2.97	3.20	4.157 (df=1281)**
Career Counselor Professional	2.65	2.86	3.445 (df=1281)**
School Counselor	2.52	2.79	4.572 (df=1281)**
Online Forums	2.57	2.69	2.028 (df=1281)**
Website	2.89	3.20	2.294 (df=1281)**
Online Self-Help Questionnaires	2.38	2.62	4.192 (df=1281)**
Description: **significant at 0.05 (p < .05)			

CONCLUSIONS AND SUGGESTIONS

The results showed that almost 30% of students who felt they had the wrong major lacked Self-Knowledge and Occupational Knowledge from credible sources. The most significant difference between students who felt that they had the wrong major and students who did not was in the aspect of values and self-knowledge, meaning that self-knowledge is an important aspect in the exploration process related to making major decisions.

In addition, students who felt they had the wrong major showed a lack of concern for career orientation and perceived career decision-making as

difficult. On the other hand, these students still showed a need to seek help.

In the help seeking variable, the average value of the group of students who feel that they have the wrong major and not the wrong major is significantly different. The findings in this study indicate that students who feel they have the wrong major lack orientation towards careers and jobs in the future. The students actually seek the help they need, but do not have sufficient knowledge to help them make decisions. In addition, students perceived that information obtained from family, friends, school counselors, and online self-questionnaires helped them in determining their majors.

Suggestions for future research are to find

out the role and interaction of general career orientation and perceived effectiveness on career decision making. Further research can also be conducted to find out other factors that can influence or help career decision making in students, such as experiments on the role of career counselors or online self-help questionnaires on the selection of majors in participants.

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