



## Career Decision-Making Difficulties: Why Exploration Alone is Not Enough for High School Students

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### Abstract

Career exploration is important for high school students to face career decision-making difficulties. This study aims to investigate the effect of career exploration training on career decision-making difficulties among 12<sup>th</sup>-grade high school students. A total of 24 SMAK BPPK grade 12 high school students in Bandung were divided into two matching groups (experimental group and control group) based on pretest scores measured by the Career Decision-Making Difficulties Questionnaire. Pretest and posttest scores data were analyzed using the related samples t-test. The results of this research show that there is no effect of career exploration training on career decision-making difficulties of grade 12 high school students. This research confirms that career exploration will be beneficial for career decision-making if it is accompanied by confidence and the ability to integrate various information into a decision (creative self-efficacy). This self-efficacy can be supported by parents, older siblings, or teachers

**Keywords:** career decision-making difficulties; career exploration; high school students; training

The decision-making process related to careers generally begins in adolescence, specifically with the selection of a major for higher studies, which has implications for future careers and an individual's psychological well-being (Nelissa et al., 2018). In the counseling services provided by one of the educational startups in Indonesia, students' complaints include challenges in choosing a major. Over a four-month counseling period from July - October 2021, at least 170 out of 342 (49.71%) high school students or graduates complained about difficulties in choosing a higher education major. This concern was not limited to students in grades 10 and 11 but extended to grade 12. Despite expectations that grade 12 students should have narrowed down their choices, the time for considering higher education majors is limited due to the preparation for various school exams and higher education entrance tests. Moreover, grade 12 students are approaching or have already reached the deadline for deciding on their higher education majors.

Interviews conducted with Guidance and Counseling teachers and students from Sekolah Menengah Atas Kristen Badan Perguruan dan Pendidikan Kristen (SMAK BPPK) in Bandung revealed difficulties in career decision-making, particularly in choosing majors and universities. Challenges include uncertainty about the chosen major, indecision about where to attend university, disagreements with parents about the chosen major, doubts about one's ability to pursue a specific major, and a lack of knowledge about the required study expenses. Economic conditions, especially for lower-middle-class parents, contribute to the common issue of selecting a major due to financial constraints. Some SMAK BPPK students need scholarships for their continued education, either for schooling or

university. Financial limitations emphasize the urgency of making the right major choice to ensure that allocated funds are used effectively for their education, leading to becoming graduates capable of working in line with their interests and abilities. Allocation of not only funds but also time and effort by SMAK BPPK students for entering university need to be directed toward the right major, considering the possibility that they may have to study independently without additional tutoring. If these high school students are assisted in choosing the right major, it is expected that they can pursue their higher education based on their interests, graduate on time, and contribute back to their families and the education fund providers.

Therefore, guidance in major selection is crucial for high school students, especially grade 12 SMAK BPPK students. This guidance is provided to address the difficulties in career decision-making. Career decision-making difficulties (Gati & Levin, 2014) refer to obstacles faced by individuals in making career decisions or achieving optimal career decisions. These obstacles can be encountered both before and during the career decision-making process. According to Gati and Levin (2014), several dimensions of career decision-making difficulties in high school students need attention. The first dimension relates to a lack of readiness in choosing a major, the second dimension concerns a lack of information, and the third dimension involves inconsistent information.

Career decision-making difficulties can be influenced by various variables, including core self-evaluation, career calling (Shen et al., 2021), career adaptability (Karacan-Ozdemir, 2019), creative self-efficacy (Storme & Celik, 2017), ambiguity tolerance, and career exploration (Xu & Tracey, 2014). High ambiguity tolerance, along with high



environmental exploration, is found to predict low inconsistent information in career decision-making difficulties (Xu & Tracey, 2014). Career exploration, both self and environmental, predicts the level of career decision-making difficulties (Vignoli, 2015; Xu et al., 2013).

Career exploration can be divided into self-exploration and environmental exploration based on the source of information (Jiang et al., 2019; Ramdhan & Salim, 2020; Stumpf et al., 1983). Self-exploration involves understanding one's characteristics, including interests, values, skills, and personality. Environmental exploration includes understanding career environment characteristics, such as potential career paths, job requirements, and job benefits (Chen et al., 2021; Hiandarto, 2021; Xu et al., 2013).

High school students have higher engagement in career exploration compared to earlier developmental stages (Noack et al., 2010). Their developmental task is to find their identity and commit to it, leading them to explore themselves by trying various identities before determining their true selves. This search for identity is also known as identity moratorium (Crocetti, 2017). The role of parents in adolescent career choices is found to have a more significant influence in collectivist cultures like Indonesia than in individualistic cultures (Akosah-Twumasi et al., 2018; Preston & Salim, 2019; Putri & Salim, 2021; Salim & Preston, 2019). The influence of the surrounding environment, such as friends and teachers, can also affect the career decision-making process of high school students (Akosah-Twumasi et al., 2018).

Career decision-making, especially in selecting a university major, is a complex issue, especially for adolescents in collectivist cultures like Indonesia who are highly influenced by their surroundings (Akosah-Twumasi et al., 2018; Preston & Salim, 2019). High school students need to consider various information sources, both internal (such as interests, talents, and abilities) and external (such as parental influence, teacher guidance, and peer influence). Additionally, teenagers have other considerations, such as potential future earnings, job security, professional prestige, and job accessibility (Akosah-Twumasi et al., 2018).

Hence, it is crucial for grade 12 high school students to explore information about themselves and the career environment, integrating obtained information creatively (Ardiyanti & Alsa, 2015; Hiandarto, 2021; Storme & Celik, 2017). Prior research has shown the benefits of career exploration training for high school students in choosing majors for university (Awaliyah et al., 2022; Wicaksono et al., 2018). Career exploration training equips students with ways to gather information about themselves, various majors, and career prospects, and helps them integrate this information into career planning (Hiandarto, 2021; Ramdhan & Salim, 2020; Saifuddin et al., 2017; Xu et al., 2013). Career exploration has been found to reduce career decision-making difficulties, including in choosing university majors (Awaliyah et al., 2022; Storme & Celik, 2017; Vignoli, 2015; Wicaksono et al., 2018; Xu et al., 2013; Xu & Tracey, 2014).

Training interventions are advantageous due to their ability to increase participation, optimize learning, improve retention, and enhance the chances of application (Silberman & Biech, 2015). By engaging participants

through interactive methods, training fosters a deeper connection with the material, leading to higher participation rates. Additionally, interactive and practical training methods, such as hands-on activities and group discussions, enhance memory retention, making participants more likely to remember and apply what they've learned. This practical approach bridges the gap between theoretical knowledge and real-world application, significantly increasing the likelihood that participants will utilize their new skills and knowledge. One method used in training is experiential learning. Past studies have shown that experiential learning is appropriate and effective for intervening in students' career exploration (Awaliyah et al., 2022; Trishaputri et al., 2020; Wicaksono et al., 2018). It involves stages such as concrete experience, reflective observation, abstract conceptualization, and active experimentation (Wicaksono et al., 2018).

Based on the literature review, there is no specific study that provides career exploration training using experiential learning and its impact on career decision-making difficulties for grade 12 high school students. Most career exploration training targets self-efficacy or career decision-making skills (Ardiyanti & Alsa, 2015; Izzawati & Lisnawati, 2015; Saifuddin et al., 2017). However, the difficulties faced by grade 12 high school students are not only related to efficacy or decision-making skills but also a lack of readiness, lack of information, and inconsistent information (within themselves and the environment) that have not been well-integrated (Gati & Levin, 2014; Levin et al., 2020). The research involving career exploration and/or career decision-making difficulties has not reached the stage of intervention or experimental, but has only gone as far as descriptive analysis, correlation, and Structural Equation Modeling (SEM) (Jiang et al., 2019; Murniarti & Siahaan, 2019; Storme & Celik, 2017; Xu et al., 2013; Xu & Tracey, 2014). Therefore, this study investigates the effect of career exploration training as an intervention on career decision-making difficulties, specifically in choosing university majors, for grade 12 SMAK BPPK students in Bandung. It is hypothesized that career exploration training will help students choose university majors, thus reducing their career decision-making difficulties. The research hypotheses are written as follows: 1) There is a significant difference between the pretest and posttest scores of career decision-making difficulties in the experimental group; 2) There is no significant difference between the pretest and posttest scores of career decision-making difficulties in the control group; 3) There is a significant difference between the posttest scores of career decision-making difficulties in the experimental group and the control group; 4) There is no significant difference between the pretest scores of career decision-making difficulties in the experimental group and the control group (to ensure matching groups before the intervention).

## 1. Method

### 1.1 Research Design

The method used in this study is an experimental pretest-posttest, control group, correlated-groups design (Graziano & Raulin, 2014). Participants were divided into two groups after the pretest to ensure an equal proportion of participants with career decision-making difficulties

scores in each group (matching groups). This matching procedure was used due to the small number of participants, allowing for precise matching, and to ensure that the pretest scores, majors (science/social), and genders of the students were equally or nearly equally distributed within each group. See figure 1

## 1.2 Participants

The participants in this study are grade 12 students from SMAK BPPK in Bandung. The sampling technique employed is purposive sampling. This means that participants are selected based on predetermined criteria: being 17-19 years old, aspiring to pursue higher education, and experiencing career decision-making difficulties based on the pretest administered earlier. The pretest was conducted before the training by filling out a consent form, demographic data, and a measurement tool. Participants were then divided into two groups (experimental and control groups).

## 1.3 Measurements

The measurement tool for career decision-making difficulties used in this study is the Career Decision-Making Difficulties Questionnaire (CDDQ) by Gati and Levin (2014), adapted by Jayanti and Cahyadi (2018). The CDDQ consists of 32 statement items (plus two validity items) with a Likert scale response format ranging from 1-9, from strongly disagree to strongly agree.

The CDDQ encompasses three dimensions and ten sub-dimensions. The first dimension relates to a lack of readiness in choosing a major, consisting of three sub-dimensions: lack of motivation, indecisiveness, and dysfunctional beliefs. The second dimension deals with a lack of information, including four sub-dimensions: information about the steps of career decision-making, information about oneself (such as talents and interests), information about available major/occupation choices, and a lack of knowledge about sources and ways to obtain needed information. The third dimension involves inconsistent information, consisting of three sub-dimensions: unreliable information, internal conflicts, and external conflicts (e.g., conflicting interests with parental wishes) (Gati & Levin, 2014; Levin et al., 2020).

Scoring for the CDDQ is done by averaging scores per dimension (to obtain dimension scores) and averaging scores from all ten sub-dimensions (to obtain an overall score) Jayanti and Cahyadi (2018). Based on the adaptation by Jayanti and Cahyadi (2018) referring to the creators of the CDDQ (Gati & Levin, 2014), the interpretation of the overall average scores for the CDDQ is divided into three categories: (1) Salient: Overall average score  $\geq 6.34$ ; (2) Moderate:  $3.33 < \text{Overall average score} < 6.34$ ; (3) Negligible: Overall average score  $\leq 3.33$ .

In the adapted Indonesian version of the CDDQ, previous research provides evidence of validity. Jayanti and Cahyadi (2018) demonstrated content validity through an S-CVI value of 0.88, indicating that the CDDQ has adequate content validity. Hikmawati and Moeliono (2022) demonstrated construct validity through Confirmatory Factor Analysis (CFA) and obtained adequate figures as

indicators of model fit: CFI = 0.98; RMSEA = 0.014; SRMR = 0.067.

This study further tested the validity of the CDDQ through concurrent validity, as conducted by Osipow and Gati (1998), by correlating total CDDQ scores with a confidence scale in choosing a major as a comparison scale. The comparison scale ranged from 1-10, with 1 meaning "not confident" and 10 meaning "very confident." The correlation between the two scales was calculated using the IBM SPSS Statistics 24 application. The CDDQ is considered valid if it shows a significant negative correlation with the comparison scale. The correlation results indicate a significant negative correlation with a Pearson's  $r$  value of  $-0.642$  ( $p < 0.05$ ). Therefore, it can be said that the CDDQ used in this study is a valid measurement tool.

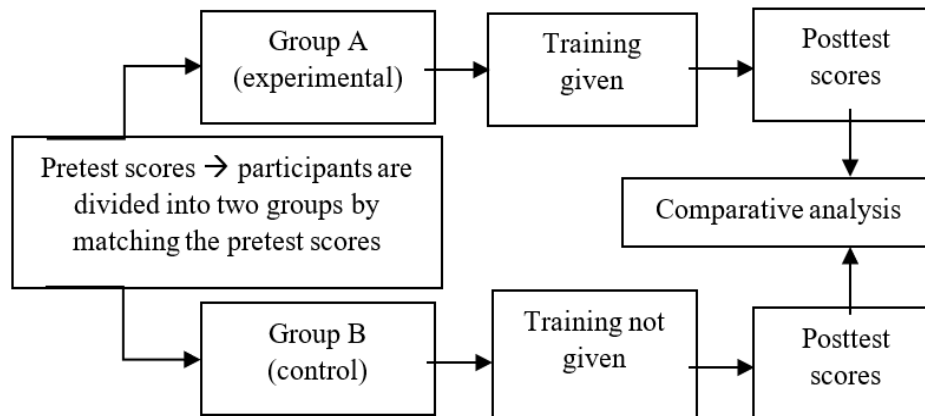
This study also tested the reliability of the CDDQ using the internal consistency Cronbach's alpha. If Cronbach's  $\alpha$  is  $\geq 0.7$ , the measurement tool is considered reliable (Taber, 2017). The reliability analysis results show that the overall Cronbach's  $\alpha$  value for the CDDQ is 0.963, and the detailed Cronbach's  $\alpha$  per dimension is as follows: Lack of Readiness = 0.730; Lack of Information = 0.967; Inconsistent Information = 0.907. Therefore, it can be concluded that the CDDQ used in this study is a reliable measurement tool.

## 1.4 Research Procedure

Before participating, students were asked to fill out informed consent forms. Students were given a pretest before the training and a posttest after the training. Students first completed a pretest questionnaire assessing their career decision-making difficulties. The total scores and scores across three dimensions of career decision-making difficulties were then categorized into salient, moderate, or negligible. Each participant was paired with others of similar categorization, ensuring that both the experimental and control groups had an equal distribution of participants across the three category levels. After matching the participants based on their pretest scores, they were randomly assigned to either the experimental or control group, resulting in two groups with balanced levels of career decision-making difficulties (Graziano & Raulin, 2014).

The intervention was conducted by providing career exploration training that included components of self-exploration and environmental exploration, as well as how to review the information resulting from these explorations for career decision-making. Career exploration training aimed at cognitive changes, such as increasing participants' knowledge about themselves and the career environment, and behavioral changes, such as actively seeking information (Hiandarto, 2021; Ramdhan & Salim, 2020; Saifuddin et al., 2017; Trishaputri et al., 2020). For the manipulation check, we ensured that students achieved the goals of the career exploration training by having them complete a worksheet from the day before the training until the day of the training with facilitators in each group. The students were required to fill out all parts of the worksheet, which included: 1) providing self-exploration data such as aspirations, preferred majors, target universities, hobbies, skills/abilities, parental expectations, and identifying at least four strengths and four weaknesses, as well as results

**Figure 1**  
Research Design



from an occupational interest test; 2) documenting career environment data guided by the facilitators, including career recommendations based on the occupational interest test, alternative majors, courses, study costs, and career prospects of those majors; and 3) assessing the compatibility between their major choices and the self-exploration data and career environment information they collected, and listing any missing data they needed to seek after the training.

The training adopted experiential learning stages as mentioned by Wicaksono et al. (2018) to facilitate students with the experience of structured career exploration and transforming their experience into knowledge of how to do an effective career exploration. The training, conducted onsite a week after the pretest in a classroom of SMAK BPPK in Bandung on the last Saturday of October 2023, was divided into two sessions. The first session, "I Found Me," a self-exploration session, lasted 145 minutes, while the second session, "I Found My Match," a career environment exploration session, lasted 165 minutes. There was a 15-minute long break between the two sessions, and each session included a 5-minute toilet break. Participants in experimental group first completed the Eureka Interest Inventory (EII), an occupational interests and abilities test based on the RIASEC Holland model (Taqyah et al., 2024; Yudiana et al., 2023), prior to the training day. This inventory facilitated the identification of their interests and perceived abilities, thereby guiding their exploration of specific university majors during the session. Additionally, they completed a career information worksheet during the training sessions to address their career decision-making difficulties and provide individualized feedback (Chiesa et al., 2016).

To control threats such as maturation, researchers coordinated with the school to ensure no university visits or other career exploration programs occurred during the research. Participants in the experimental group were asked to keep the career exploration training content confidential until after the posttest. The control group received no career interventions until after the posttest, at which point they were offered free individual counseling sessions and the EII to ensure ethical fairness.

### 1.5 Data Analysis

The data analysis technique used to test hypotheses in this study is a comparative test. Data analysis was conducted using the IBM SPSS Statistics 24. The scores compared were the pretest-posttest scores in each group. Additionally, the posttest scores between the experimental and control groups were also compared.

Before conducting comparative hypothesis tests, the researcher performed a normality test on the difference in variables to be tested, both in pretest and posttest scores. The results of the normality test with the Shapiro-Wilk value showed that all the data used were normally distributed ( $p > 0.05$ ), allowing parametric comparative tests to be used (Gupta et al., 2019). The data analysis used to test score differences is the related samples t-test. The difference between pretest-posttest scores in each group was compared. If there is a significant result ( $p$ -value  $< 0.05$ ) in the experimental group, it can be said that there is an effect of career exploration training on career decision-making difficulties among grade 12 students at SMAK BPPK in Bandung. If the data analysis results show non-significant values, it can be said that there is no evidence of the effect of career exploration training on career decision-making difficulties among grade 12 students at SMAK BPPK in Bandung. The posttest scores of the experimental group and the control group were also compared to determine if the experimental group had lower scores in career decision-making difficulties compared to the control group or not.

### 1.6 Result

Demographic data indicates that the majority of grade 12 students from SMAK BPPK in Bandung are 17 years old (66.7%). The gender distribution is equal, with an even split between males (50%) and females (50%), and the distribution between science class (45.8%) and social science class (54.2%) is nearly equal. Most of the students receive financial support for their studies from their parents (83.3%). At least some of the grade 12 students from SMAK BPPK in Bandung have fathers who graduated from junior high school (58.3%) or mothers who graduated from high school or equivalent (58.3%). The majority of their fathers are entrepreneurs (45.8%), and most of their

mothers are homemakers (58.3%). See Table 1

Descriptive results before and after the training indicate a decrease in career decision-making difficulties in both the experimental and control groups. However, the extent of the decrease in career decision-making difficulties in both groups did not exceed their respective standard deviations, suggesting that there is no significant change. In each dimension, no significant changes were found as the score differences before and after the training did not exceed their standard deviations. See Table 2

After providing career exploration training, a comparative test was conducted to examine whether there was a significant difference between pretest-posttest scores of career decision-making difficulties in the experimental group (Hypothesis 1). The results of the related samples *t*-test showed that there was no significant difference between the pretest score ( $M = 4.59$ ,  $SD = 1.67$ ) and the posttest score ( $M = 4.29$ ,  $SD = 1.66$ ) of career decision-making difficulties in the experimental group,  $t(11) = 1.078$ ,  $p > 0.05$ . Therefore, it can be stated that there is no significant change in career decision-making difficulties in the experimental group after the intervention. See Table 3

The difference in pretest-posttest scores of career decision-making difficulties in the control group was also tested to assess the relative condition of the control group compared to the experimental group (Hypothesis 2). The related samples *t*-test results showed that there was no significant difference between the pretest score ( $M = 4.62$ ,  $SD = 1.82$ ) and the posttest score ( $M = 4.16$ ,  $SD = 1.76$ ) of career decision-making difficulties in the control group,  $t(11) = 1.144$ ,  $p > 0.05$ . Therefore, it can be stated that there is no significant change in career decision-making difficulties in the control group.

The difference in posttest scores of career decision-making difficulties between the experimental group and the control group was tested to ensure whether there was a difference between the two groups (Hypothesis 3). The related samples *t*-test results showed that there was no significant difference between the posttest score of career decision-making difficulties in the experimental group ( $M = 4.29$ ,  $SD = 1.66$ ) and the control group ( $M = 4.16$ ,  $SD = 1.76$ ),  $t(11) = 0.244$ ,  $p > 0.05$ . Therefore, it can be stated that career decision-making difficulties in both groups after the intervention remain equivalent.

Statistical testing was conducted to ensure there was no difference in pretest scores of career decision-making difficulties between the experimental group and the control group (Hypothesis 4). The related samples *t*-test results showed that there was no significant difference between the pretest score of career decision-making difficulties in the experimental group ( $M = 4.59$ ,  $SD = 1.67$ ) and the control group ( $M = 4.62$ ,  $SD = 1.82$ ),  $t(11) = 0.076$ ;  $p > 0.05$ . Therefore, it can be stated that career decision-making difficulties in both groups were already equivalent.

The results of the reaction evaluation indicate that participants who attended the training considered the training beneficial (83.3%) and somewhat beneficial (16.7%). Most also perceived that the duration of the training was appropriate (75%) and the room used was comfortable (58.3%), but there were some suggestions regarding the lack of duration (25%) and some participants suggested having the training on campus. Other feedback related to the timing

of the implementation suggested not starting too early in the morning (the training was started at 7 am) and providing longer preparation time, such as two weeks in advance (the training was announced one week before the training day). Participants perceived that the facilitator's delivery was clear (83.3%) and somewhat clear (16.7%), but there was feedback about the lack of humor used, and some participants hoped for more explanations regarding the results of the occupational interest test.

## 2. Discussion

This study aims to measure the extent of the effect of career exploration training on career decision-making difficulties, specifically the choice of university majors, among grade 12 students at SMAK BPPK in Bandung. Previous studies have indicated a significant correlation between career exploration and career decision-making difficulties (Storme & Celik, 2017; Xu et al., 2013; Xu & Tracey, 2014). The findings of this research show different results from previous studies. Despite the career exploration training provided to grade 12 students at SMAK BPPK in Bandung, there was no significant change in their career decision-making difficulties. This result suggests that there is no effect of career exploration training on career decision-making difficulties, specifically in selecting university majors, among grade 12 students at SMAK BPPK in Bandung.

In this study, the hypothesis that career exploration training would reduce career decision-making difficulties was rejected. While previous studies (Storme & Celik, 2017; Xu & Tracey, 2014) have established a relationship between career exploration and career decision-making, they also highlight the role of creative self-efficacy and ambiguity tolerance. Our findings suggest that, without the inclusion of interventions designed to improve students' confidence in integrating complex career information, the impact of career exploration alone is limited. Thus, while the theory supports the importance of career exploration, this research confirms that it is not a standalone solution for reducing career decision-making difficulties.

### 2.1 Creative Self-Efficacy to Integrate Career Information

There is no significant difference between pretest-posttest scores of career decision-making difficulties in both the experimental and control groups (Hypotheses 1 and 2). The findings of Storme and Celik (2017) indicate that even after career exploration, some individuals still experience difficulties in career decision-making. The effect of career exploration on career decision-making difficulties is moderated by an individual's level of confidence in integrating various career information and challenges (creative self-efficacy). Career exploration requires students to collect information about self and career environment that might seem contradictory at times. As students collect more information, students realize that there is no single best career choice, as every career choice has its own fit and misfit for students (Xu & Tracey, 2014). Some careers may interest them, but they may lack the necessary skills. On the other hand, some students may have both the interest and the skills in a particular field but doubt the job

**Table 1**  
Demographic Data of Participants

Demography	Group	Frequency	Percentage
Age	<b>17</b>	<b>16</b>	<b>66,7</b>
	18	7	29,2
	19	1	4,2
Gender	male	12	50
	female	12	50
High school major	science	11	45,8
	<b>social</b>	<b>13</b>	<b>54,2</b>
Source of educational fund	<b>parents</b>	<b>20</b>	<b>83,3</b>
	scholarships	1	4,2
	other family members	3	12,5
Father's level of education	(deceased or not specified)	4	16,7
	<b>junior high school</b>	<b>14</b>	<b>58,3</b>
	high school	2	8,3
	diploma	3	12,3
	bachelor's degree	1	4,2
Father's occupation	- (deceased or not specified)	3	12,3
	<b>Entrepreneur/Trader</b>	<b>11</b>	<b>45,8</b>
	Private Employee	4	16,7
	Other (Daily Casual Laborer, Online Driver, Sailor, Nurse, Palm Oil Farmer, Sales)	6	25,2
Mother's level of education	- (deceased or not specified)	2	8,3
	elementary school	2	8,3
	junior high school	1	4,2
	<b>high school</b>	<b>14</b>	<b>58,3</b>
	diploma	4	16,7
Mother's occupation	bachelor's degree	1	4,2
	- (deceased or not specified)	3	12,3
	<b>Housewife</b>	<b>14</b>	<b>58,3</b>
	Private Employee	2	8,3
	Nurse	1	4,2
Participants Total	Entrepreneur	4	16,7
		24	100

Note. The bolded scores represent the group with the largest portion

**Table 2**  
Descriptive Results Before and After Training

Variable/Dimension (Group)	Before Training		After Training	
	M	SD	M	SD
1. Career decision-making difficulties (control group)	4.62	1.82	4.16	1.76
Lack of Readiness	5.00	1.11	4.69	1.04
Lack of Information	4.79	2.56	4.22	2.32
Inconsistent Information	3.99	2.24	3.54	2.14
2. Career decision-making difficulties (experimental group)	4.59	1.67	4.29	1.66
Lack of Readiness	4.79	0.96	4.50	1.47
Lack of Information	4.99	2.37	4.44	2.06
Inconsistent Information	3.86	1.74	3.87	1.58

**Table 3**  
Comparative Test Results For Each Hypothesis

Hypothesis	t(11)	p-value	Interpretation
1. There is a significant difference between the pretest and posttest scores of career decision-making difficulties in the experimental group	1.078	0.304	Rejected
2. There is no significant difference between the pretest and posttest scores of career decision-making difficulties in the control group	1.144	0.277	Accepted
3. There is a significant difference between the posttest scores of career decision-making difficulties in the experimental group and the control group	0.244	0.811	Rejected
4. There is no significant difference between the pretest scores of career decision-making difficulties in the experimental group and the control group (to ensure matching groups before the intervention).	0.076	0.941	Accepted

prospects and whether it meets their or their parents' future expectations. Therefore, confidence and the ability to integrate diverse career information are needed to reduce career decision-making difficulties (Storme & Celik, 2017). If students lack confidence in integrating this information into a career decision that bridges these contradictions, they may feel uncertain and become less motivated to engage in the career decision-making process. On the contrary, if students possess creative self-efficacy, they can find career decision solutions that bridge information that seems conflicting. For example, they might choose a major that realistically meets their needs and their parents' expectations, while planning to take additional courses or continue studying the field they are passionate about outside of their formal education.

This factor of efficacy in integrating various career information and challenges explains the difference in the results of this study compared to previous research. Previous studies by Storme and Celik (2017), Xu et al. (2013), and Xu and Tracey (2014) involved participants from university students who had chosen more specific majors, compared to the high school student participants in this study. University student participants likely have greater creative self-efficacy and more career exploration experience, thus these factors may have a more significant impact on their career decision-making compared to high school student participants with less previous experience in career decision-making.

## 2.2 Social Support to Expose Students to Career Information

Although there is no significant difference in pretest-posttest scores of career decision-making difficulties between the two groups, the descriptive results show a decrease in the scores of career decision-making difficulties in both the experimental and control groups. In line with the studies by Lent and Brown (2013) and Noack et al. (2010), the level of career exploration tends to increase when there is a demand to make a career decision, especially as the decision-making deadline approaches. Grade 12 high school students in both the control and experimental groups are approaching the deadline for making career decisions, making them likely exposed to career information. Therefore, there is no difference in pretest and posttest scores of career decision-making difficulties between the experimental and control groups (Hypotheses 3 and 4). Career information can be obtained not only through career exploration training, as provided in this research intervention, but also from school collaborations

with universities, social media, and people in their surroundings, such as parents and teachers (Rogers et al., 2018). Based on the initial data collection interviews, it was found that SMAK BPPK has collaborative programs with nearby universities to conduct new student admission socialization. Programs like this can help increase students' career exploration levels and, consequently, reduce their level of career decision-making difficulties.

The difficulty of high school students in making decisions about pursuing higher education may also be limited because most of their parents did not receive higher education. Parents, especially in the collectivist culture in Indonesia, play a significant role in the career choices of adolescents (Akosah-Twumasi et al., 2018; Preston & Salim, 2019; Putri & Salim, 2021; Salim & Preston, 2019). If parents lack awareness or sufficient knowledge about higher education, one of the most significant career decision-making supports for students is reduced. Therefore, students need to find career decision-making support from others, such as older siblings, teachers, and school friends (Akosah-Twumasi et al., 2018; Fadhillah & Yudiana, 2020; Rossallina & Salim, 2019).

## 2.3 Career Exploration Training Benefit

During the career exploration training, each group was observed by facilitators who assisted three students, with two additional observers circulating around the room. The observations indicated that while all students participated in group discussions, some groups were more interactive than others. Students enthusiasm noticeably increased from the first to the second session, particularly during a competitive ice-breaking activity, where some students actively went to the front of the class to sought the trainer's attention. At the end of the training, two students shared their testimony: a female student from the social high school major felt reassured about her choice of university major after connecting with a senior from her desired program, while a male student from the science high school major valued the information gained and now understands how to seek information and choose his future university major. The results of the reaction evaluation show that the majority of participants who attended the training found career exploration training beneficial, the training duration appropriate, the room used comfortable, and the delivery by the facilitator clear.

## 2.4 Self-Exploration Takes Longer

Although participants generally gave positive impressions, there were some valuable suggestions, such as extending

the training duration and providing more explanations regarding the results of the occupational interest test. These suggestions are consistent with (Karacan-Ozdemir, 2019) findings regarding self-knowledge difficulties. Compared to university students, high school students as adolescents relatively face more challenges in integrating contradictory characteristics within themselves. Karacan-Ozdemir (2019) found that fulfilling curiosity about the career environment is easier than self-knowledge. Exposure to information about the career environment through peers, teachers, and parents, as well as various social media, can create a complex and confusing impression for high school students.

### **2.5 Ambiguity Tolerance to Face Complex Career Decision-Making Process**

The way students perceive and respond to unfamiliar, complex, or confusing situations, such as choosing a university major, is referred to as ambiguity tolerance. High ambiguity tolerance helps students remain proactive in facing confusing career exploration processes (Xu & Tracey, 2014). Without adequate ambiguity tolerance, high school students exposed to a lot of career information may perceive the diversity of information as inconsistent information. High school students with low ambiguity tolerance may also feel anxious, leading to a lack of readiness to make career decisions and choosing to avoid the career decision-making process.

### **2.6 Financial Barriers Hinder Ambiguity Tolerance**

Looking at the participant descriptions, it can be seen that some students also face difficulties in choosing a major due to financial reasons. In line with the research background, the limited financial conditions of students urge the need to choose the right major so that students can quickly enter the workforce after graduation. Xu and Tracey (2014) suggest that students could better navigate their career exploration if they are open to inevitable ambiguity in career decision-making process rather than being pressured to find a single best choice, as every career choice has its own advantages and consequences. Financial barriers limit students' choices, and parents may tend to guide students toward majors that are perceived to quickly lead to employment. Financial constraints may limit high school students from keeping their options open, such as applying to other universities while waiting for the announcement from their preferred university. Students with financial limitations cannot afford to keep their choices open in this way, and they are required to find accessible university admission options. This condition also reduces the ambiguity tolerance of high school students, resulting in difficulties in career decision-making (Xu & Tracey, 2014). Financial issues demand active involvement from the students to explore more about available career opportunities despite facing economic limitations. Financial barriers may also reduce students' confidence in finding career options, thereby reducing their motivation to undergo the career decision-making process (lack of motivation) (Levin et al., 2020).

### **2.7 Limitation**

There are several limitations in this study. First, the research did not incorporate variables influencing career decision-making, such as creative self-efficacy and ambiguity tolerance, within the career exploration training program. Second, the study lacked a manipulation check using a career exploration measurement tool, highlighting the need for a valid and reliable measurement tool to measure career exploration for students. Third, this experimental study involved a small number of participants with relatively homogeneous characteristics. Future research with a larger and more diverse sample may be necessary to capture the effects of career exploration across various demographic characteristics.

### **3. Conclusion**

This study found that there is no significant effect of career exploration training on career decision-making difficulties, particularly in choosing university majors, among grade 12 students at SMAK BPPK in Bandung. The findings of this research differ from previous studies that indicated a correlation between career exploration and career decision-making difficulties. The study emphasizes that career exploration will be beneficial for career decision-making if accompanied by the confidence and ability to integrate various acquired information into a decision (creative self-efficacy). This belief can be obtained with adequate guidance from individuals with more experience in higher education, such as parents, siblings, or teachers. Implication to effectively address career decision-making difficulties among high school students, career guidance programs should go beyond career exploration by incorporating elements that enhance creative self-efficacy and ambiguity tolerance. Schools and career counselors should design training programs that build students' confidence in synthesizing diverse and sometimes conflicting career information through problem-solving exercises, decision-making simulations, and collaborative discussions with peers and mentors. Additionally, promoting ambiguity tolerance is essential, as students need to navigate uncertain or contradictory career information without the pressure of finding a "perfect" choice. Workshops that encourage exploring various options can reduce anxiety and indecision. Furthermore, financial constraints must be considered in career decision-making guidance, with discussions on financial planning, scholarships, and cost-effective education pathways to alleviate the financial pressure that limits career choices.

### **3.1 Recommendation**

Theoretically, career exploration is indeed a necessary part that every individual must go through in making a career decision. However, research in the educational psychology field needs to acknowledge that career exploration also depends on other variables such as self-efficacy, ambiguity tolerance, and other variables. Therefore, it is necessary to identify variables that act as mediators or moderators in the relationship between career exploration and career decision-making difficulties. The necessity of career exploration alone is not sufficient to solve students' career decision-making difficulties, it must be accompanied by other factors to be truly effective.



High school students need to actively seek information about themselves and their career environment. They can utilize open sources like websites, social media, occupational interest tests, and personality tests. It's also crucial for students, especially those with financial constraints, to research scholarships and their criteria. Teachers, particularly guidance counselors, and families, especially parents, can support this exploration from elementary school through high school by providing career counseling, interest and aptitude tests, discussions on extracurricular activities, introducing role model speakers, offering non-academic tutoring, and helping search for scholarships. The earlier students are guided to direct their careers, the more focused they become on learning. Therefore, learning is no longer a forced obligation but arises from the student's awareness to develop themselves to achieve their career goals. This research supports Indonesia's Kurikulum Merdeka, highlighting the importance of career exploration in student development and encouraging career planning to motivate goal-oriented learning.

## 4. Declaration

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### 4.2 Authors' Contributions

JG designed the study, analyzed the data, and wrote the research article. MY and MR are the academic supervisors who gave inputs and supervised the research process. All authors read and approved the final version of the manuscript.

### 4.3 Conflict of Interest


We have no known conflict of interest to disclose.

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