

The level of career indecision of senior high school students based on gender

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ABSTRACT

The purpose of this study was to determine the level of adolescent career indecision based on gender differences between male and female adolescents. This study used a quantitative descriptive method. The sampling technique employed a random sampling technique. The sample of this research was 361 students of class XII (12th grade) from 24 senior high schools in Kulon Progo Regency, Indonesia. The number of respondents based on gender consisted of 295 female and 66 male students. Data collection technique had been carried out using the career decision making difficulties questionnaire (CDDQ) in the 2022/2023 academic year through quantitative descriptive techniques and independent sample t-test. The independent sample t-test obtained the results of the Sig. less than 0.05 ($0.031 < 0.05$). Meanwhile, the results of descriptive analysis show that the level of career indecision of students who fall into the salient category is 26.44% of female students and 16.67% of male students. Thus, it can be concluded that there were respondents, both female and male students, who were included in the level of career indecision in the salient category or serious category that required assistance by a counselor to overcome its problem.

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1. INTRODUCTION

People can perceive the swift technological transformations occurring in the industry 4.0 revolution. These changes have a multiplier effect. Besides the economic growth, the industrial revolution also had a negative impact. Automation causes many work categories substituted by machines proven by the research of Oxford Martin School which concludes that 47 % of total jobs are at risk of substitution by machines [1]. According to Radziwill [1], job positions most vulnerable to automation, include telemarketers, tax preparers, insurance assessors, referees, legal secretaries, restaurants and coffee sellers, housing agencies, farmwork contractors, secretaries, and administration, as well as couriers.

Proper career selection is necessary to deal with the changes that occur as a result of the industrial revolution. A career guidance and counseling facility is required so that the high school student can choose a career that suits his or her interests and potential. If the student does not understand or realize their interests and talent, they are likely to have difficulty choosing a career. One of the goals of career guidance is to know the various types of work related to their potential and the types of education and training needed for a particular field, as well as understand the relationship of his present efforts with his future. The guidance refers to career-oriented activities usually provided by school counselors and teachers because they aim to help students become aware of the world of work, the value of planning, and self-attributes that may be

related to various career choices [2]. Career counseling is a formal specialization of some guidance functions. The information present in today's professional conditions sometimes lacks accountability, leading students to experience uncertainty when selecting a career [2]. Career indecision generally tends to manifest during adolescence. The developmental period where career decisions are considered important is young adulthood [3]. Indecision is one of the most important obstacles to adolescent career development [4]. Meanwhile, Fabio *et al.* [5] in their research explained that young adults who are less extroverted and more neurotic tend to experience more career indecision. The concept of career indecision is used to refer to all those problems that an individual faces during the process of deciding on a particular career [6]. Career indecision is a construct that refers to the emergence of problems during the career decision-making process where individuals feel uncertain about their educational and vocational future, while others are more confident in making their choices [7].

Career indecision according to a developmental perspective is temporary, but some people may experience long-term indecision [8]. Thus, career indecision is an urgent problem that must be resolved through career guidance and counseling. It is considered a stressful situation because it involves dilemmas and conflicts that can be triggered by interpersonal, intrapersonal, and environmental factors [9]. Moreover, career indecision is seen as a developmental problem of career maturation resulting from a lack of information about oneself or the world of work [10]. Career decision-making as consisting of a readiness phase, where lack of motivation, indecision, and dysfunctional beliefs are problematic [10]. Additionally, during the decision-making phase, it becomes crucial to obtain adequate and reliable information concerning the decision-making process, self-awareness, and the professional domain.

Career indecision is an individual's inability to make career decisions for certain reasons [11]. Career indecision is a person's inability to decide in choosing a career [12]. Career indecision is part of the career selection process, where it is contained in one's career development tasks [13]. Orosz and Lukács [13] explained that career indecision means indecision regarding the career path of someone to pursue and the decision that must be made simultaneously. Career indecision usually occurs at transition points, for example, high school to university, school to the world of work, and when choosing a new field [13].

Saka *et al.* [14] explained that it is necessary to distinguish between indecision experienced by individuals, namely chronic indecision in various contexts and situations or normal indecision where individuals still have the potential to make decisions quickly because they still need a lot of information for consideration. Counselors can assist individuals who experience the need for more personal, vocational, and decision-making information. To reduce indecision, they can be provided knowledge about the level and sources of career indecision [15]. The lack of career counseling is one of the causes of students experiencing career indecision [16]. This often makes students feel uncertain about the career choices they should take after graduating. Therefore, it is very important to provide information to students so that their career indecision can be resolved.

Two types of career indecision namely firstly developmental indecision which is a temporary phase of the career decision process [17]. This type is considered a period of normative development and can be seen as part of the career exploration stage. Secondly, chronic career indecision is considered as a trait and not just part of a career. The individual may exhibit indecision that is present in other domains of life. There are three constructs underlying the assessment categories, such as i) Readiness assessment consisting of an assessment of dysfunctional beliefs about career decision-making, self-efficacy in career decision-making, involvement in the process, and career indecisiveness; ii) Orientation assessment which includes an assessment of the style and profile of career decision making, ways of handling career decisions, and adaptability; as well as iii) information assessment which includes an assessment of the difficulties of a lack of information (about oneself, about the world of work, and about how to make career decisions) or an assessment of the use of information (unreliable information, internal and external conflicts) [18].

Career indecision indicators as explained in the taxonomy of career decision-making difficulties, include three major clusters of difficulties, further categorized into 10 specific categories [19]. The major cluster lack of readiness includes three difficulty categories that typically arise prior to engagement in career decision-making: lack of motivation to engage in the process; general indecisiveness (i.e., involving decisions in various areas); and dysfunctional beliefs about career decision making. The other two difficulty clusters, lack of information and inconsistent information, include difficulties that typically arise during the process. Lack of information refers to the decision-making process, personality, occupations or careers, and ways of obtaining information or help. The cluster of inconsistent information includes unreliable information, internal conflicts-conflicts within the individual, and external conflicts-conflicts with significant others. The research by Levin *et al.* [19] reviewed the relationship between career and negative emotions associated with the nature and anxiety of career choices as well as with the nature and pessimism of career choices.

Priyasantha *et al.* [20] in his research explains that many of research that is implied explains career indecision. According to research by Priyasantha *et al.* [20], four determining factors for career indecision cover student's differences in individuals, contextual/environmental factors, social factors, and outcomes from career indecision. Some previous researchers focused on research that revealed the factors that affected students' career indecision. The research conducted by Sidiropoulou-Dimakakou *et al.* [21] states that there is a high correlation between dysfunctional career thinking of career indecision.

According to research that has been carried out, there is no research to review the level of career indecision in a population. This career level of indecision data is necessary to know the extent of teen career indecision. If indeed found a high level of career indecision, it can be done to minimize or treat it. Therefore, in order to make a meaningful contribution to the understanding of career indecision, the researchers aim to assess the extent of career indecision among teenagers in Kulon Progo regency, Indonesia, with a specific focus on gender differences. In addition, the researchers are able to know whether there is a difference in the level of career indecision between male and female students, and the category of the career indecision between male and female students in Kulon Progo regency. The results of the research are expected to help the teacher guidance and counseling or counselor to make strategies to overcome career indecision experienced by teenage students.

2. METHOD

2.1. Research methods

The research method used in this research is quantitative research. Quantitative methods employed statistical tests to measure the phenomenon under study. The research design used is a one-shot case study. In this case, a questionnaire was used to collect survey data and reveal students' career indecision. This research has been declared ethically appropriate according to the 2011 WHO 7 standards from the Ethics Commission of the Directorate of Research and Community Service at Yogyakarta State University based on the ethically appropriate certificate No. T/3/UN34.9/KP.06.07/2024. The instrument used in this research is the Career Decision Making Difficulty Questionnaire (CDDQ) which was adapted from Gati *et al.* [10]. The CDDQ instrument adapted in Indonesian has been tested for validity of 0.941 based on Jayanti's research [22].

2.2. Population and sample

The population used in the study was high school (SMA)/vocational high school (SMK) students in the Kulon Progo regency, Indonesia. The sample fetching method in this study used random sampling methods. The population of class XII (12th grade) SMA/SMK students in Kulon Progo regency is 3,600 students, and the number of samples used in this research was calculated using the Slovin formula (1).

$$n = \frac{N}{(1+Ne^2)} \quad (1)$$

Where “*n*” is the number of samples, “*N*” is a symbol of population size, and “*e*” is a symbol of error tolerance (*e*=0.05). Based on calculations using the Slovin formula, the minimum sample size involved 360 respondents so the sample size is adequate for this research. Sample in research totaling 361 students of 24 senior/vocational high schools class XII in the Kulon Progo Regency including from MAN 1 Kulon Progo, SMK Negeri 1 Pengasih, SMK Negeri 1 Panjatan, SMA Negeri 1 Pengasih, SMK Muhammadiyah 1 Wates, SMA Negeri 1 Temon, SMA Negeri 1 Girimulyo, SMK Negeri 2 Pengasih, MAN 2 Kulon Progo, SMA Negeri 1 Galur, SMK Negeri 1 Binangun, SMA Negeri 1 Kokap, SMA Sanjaya Nanggulan, SMA Negeri 1 Lendah, SMK Negeri 1 Samigaluh, SMK Ma'arif 2 Temon, SMK BOPKRI Wates, SMA Muhammadiyah 1 Wates, SMA Sanjaya Girimulyo, SMA Ma'arif 1 Wates, SMK Ma'arif 1 Wates, SMA Muhammadiyah 3 Wates, and SMA Negeri 2 Wates. The respondent's age is around 16 to 18 years. The samples used in this study consisted of 295 female students and 66 male students. The difference in the number of male and female samples was due to random sample fetching.

2.3. Data collection analysis

The analysis used to research was descriptive analysis. Others were analyzed by dividing them into three categories according to the procedures established by Gati and Levin [23] covering the first category “salient” a score >6.34 reflects those categories of career indecision and a need for an aid counselor to handle it, the second category “moderate” a score between 3.33 until 6.33, reflecting the individual experience of indecision but it has enough to make a career move, and the third “negligible” <3.33, reflecting individual experience indecision minim and quite sufficient to make career indecision. An analysis of career indecision between male and female students was carried out using an independent test sample t-test of career indecision scores, which were obtained from an CDDQ instrument that has been filled by students.

The instrument's reliability was analyzed using the IBM Statistic SPSS 25 application. Data collection using the CDDQ questionnaire was previously carried out on 100 high school students in Kulon Progo regency. These students did not take part in the actual study. Item reliability analysis was determined through the reliability coefficient test. The results of the reliability test showed that the Cronbach alpha value was 0.928, which shows acceptable reliability consistency. CDDQ instruments provides a scale from 1 (very much not appropriate) to 9 (very suitable) [24]. CDDQ score analysis was carried out by calculating the average range of scores whose results indicated the level of career indecision [24]. The greater the average CDDQ score indicates that the greater the career indecision experienced by students [24]. The data collection process had been carried out in the even semester of the 2022/2023 academic year.

3. RESULTS AND DISCUSSION

3.1. Results

The number of respondents were distinguished by gender by a total of 361 respondents. The number of male respondents was 66, and the total of female respondents was 295. The number of spreads of male and female respondents who had different differences is a result of random sampling. The descriptive analysis table using the SPSS 25 application can be seen in Table 1. Mean and standard deviation are indicated separately for male and female.

Table 1. Result of descriptive analysis

	Gender	N	Group statistics		
			Mean	Std. deviation	Std. error mean
Score	1 (male)	66	4.661515	1.2972245	15.96773
	2 (female)	295	5.010780	1.2957081	7.54390

Career indecision is divided into three groups of salient, moderate, and negligible. Research results by providing the CDDQ instrument to measure career indecision on 361 responders got 89 responders in the salient category, 228 responders in the moderate category, and 44 responders in the negligible category. Based on the data obtained, 24.65% are in the salient category. This shows that 24.65% of students need assistance from teacher counseling or a counselor to overcome their career indecision. As many as 63.15% of respondents are in the moderate category, which means in career indecision but can still make a career move. As many as 12.18% of respondents are in the negligible category, which means students experienced no career indecision and were capable of making a career decision.

Career indecision data from the CDDQ instrument by gender shows that 26.44% of female student career indecision levels or as many as 78 students belong to the salient category (needs counselor help), 62.37%, or as many as 184 students are included in the moderate category (career indecision can still solve by themselves), and 11.18% or as many as 33 students are included in the negligible category (equal individuals can make their own career decisions). Descriptive analysis shows the level of career indecision of male students is 16.67% or as many as 11 students belong to the salient category (needs help counselor), 66.67% or as many as 44 students are included in the moderate category (career indecision can still be overcome on its own), and 16.67% or as many as 11 students are included in the negligible category (the individual is quite capable of making his own career decision). The difference in career indecision data for male and female students can be seen in Figure 1.

The level of career indecision obtained from research can be used by teachers, work alliance organizers, or educational organizers to better fix the education system, especially in terms of career counseling. The data proves that there are still high levels of indecision and need help from counselors to make career decisions for both female and male students. The research data shows that the female respondent was 295 and the male respondent was 66. Judging from the numbers, the male and female samples were not balanced for statistical analysis. This condition is usually called imbalanced data. Imbalanced conditions can be in the form of the emergence of many major classes, the emergence of a few minor classes, or the emergence of major classes and minor classes simultaneously. One way to overcome imbalanced research data is to use undersampling techniques. Undersampling is an algorithm that focuses on classes that have a large proportion reduced to obtain a balanced proportion [25].

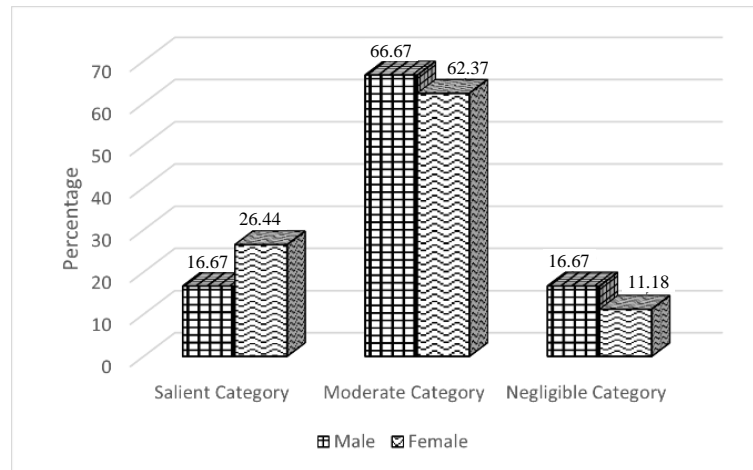


Figure 1. Career indecision data of male and female students

The undersampling method used in this research is a clustering-based undersampling method. The method in this research uses the algorithm from Yen and Lee [26] which consists of stages i) determining the data range; ii) determining the number of classes; iii) determining the class length; iv) creating class intervals; v) calculating the ratio of the number of frequencies for each majority and minority class interval; and vi) the process of taking how much majority data will be taken in each cluster. In this research, so that the data is balanced, the majority class (female respondent) is taken in the same number as the minority class (male respondent), as much as 66 data.

This undersampling method is used to overcome the imbalance in career indecision score data for male and female students. To see the differences in career indecision between male and female students, the career indecision score data was analyzed using the independent sample t-test by the SPSS application. The results of the independent sample t-test of the career indecision scores of male students and female students can be seen in Table 2.

Table 2. Result of independent sample T-test

		Levene's test for equality of variances		T-test for equality of means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean difference	Std. error difference	95% Confidence interval of the difference	
Score	Equal variances assumed	4.779	.031	-2.489	130	.014	-59.803	24.030	-107.343	-12.263
	Equal variances not assumed			-2.489	126.91	.014	-59.803	24.030	-107.354	-12.252

The results of the independent sample t-test score of the career indecision of male and female students indicate a value of Sig. less than 0.05 ($0.031 < 0.05$). The results show that there is a difference in career indecision between male and female students. From the confidence score interval of the difference can be seen that the lowest score of career indecision on a male student's career is higher than a female student's score.

3.2. Discussion

Data analysis of the career indecision data from the instrument Career Decision Making Difficulties Questionnaire (CDDQ) gives an initial description of senior high school student indecision in the Kulon Progo regency. The use of this CDDQ instrument has been utilized in some previous research to measure career indecision. One study that used the CDDQ instrument has a goal to give a CDDQ interpretation at the level of items that can help in giving proper counseling [24]. The research shows that CDDQ has become an instrument of effectiveness in practice provides a better understanding of the need for intervention clients and is more effective in providing counseling. In its findings, CDDQ results can be used as a counselor to make individuals get information about vocational interests, characteristics of personality, and values to help solve indecision. Analysis of CDDQ can increase understanding of career decision-making difficulties in clients

which can ultimately encourage counselors to choose the right career intervention [24]. Next, the use of CDDQ in career intervention would be more precise in judging a particular type of difficulty reported by the client. It can be easier to do diagnostics tests related to the career indecision that students experience.

Another study using the CDDQ instrument for measuring career indecision among students is research conducted by Crisana and Turdab [27]. The findings are in line with research conducted by Crisana and Turdab [27]. Crişan and Turda [27] also conducted a study of 160 student participants at the National College “Dragod Voda” consisting of 71 teenage males and 89 teenage females. Measurement of career indecision in research [27] used the CDDQ instrument from Gati *et al.* [10]. The results of the research [27] showed that teenage boys have an average higher level of career indecision than girls. Research by Vaiopoulou *et al.* [28] also used the CDDQ instrument to identify and deal with career decision-making difficulties or career indecision in high school students before they continued to higher education. The same results were shown by research conducted in 2012 [29]. The study was conducted on 282 high school students 168 females and 114 males [29]. The results of the research show that gender affects career indecision with the result of $t_{\text{value}} > t_{\text{table}}$ ($2.20 > 1.65$) [29].

Das *et al.* [30] explained that gender influence in career decision-making is significant because high school students begin to externalize gender roles according to their social and cultural practices. Das also revealed that the difference in career aspirations of boys would prioritize the financial side, while girls' priorities will consider the balance between life and work. Based on the assumption of career indecision, the taxonomy developed represents the difficulties caused by indecision. Difficulty in making career decisions is caused by the involvement of a lack of readiness in the career decision-making process or a lack of information or information that is not by the decision-making process.

Not addressed career indecision will cause a lot of worry, anxiety, and contemplation [31]. Tibbett and Ferrari [31] explained that indecision is a maladaptive delay in decision-making when faced with conflict or choice. Next, Tibbet and Ferrari added that indecision will cause a loss because when individuals have indecision, then they cannot make a decision so do nothing. Individuals who have indecision are not able to process information for decision making and there is a decision delay, making them spend a lot of time considering decisions [31].

Providing career guidance and counseling services is very important for school counselors. The practice scope and the characteristics of service also need to be considered when becoming a competent service provider [32]. To meet clients' needs, some only need information, and some need advice [32]. In making decisions, clients need guidance in obtaining relevant information and considerations [32]. Comprehensive counseling is needed to develop a plan for clients who have many obstacles to having a meaningful future [32]. Quality career guidance and counseling services can be provided by adopting mechanisms and validating the competencies required of practitioners [32]. Amini *et al.* [33] explained that emotional support from teachers is important in encouraging career exploration among high school students.

The student's career indecision can be solved when the problems that cause them are recognized. The career counselor can rely on the taxonomy of career indecision found in the CDDQ which covers: i) lack of motivation; ii) lack of information about self and dysfunctional beliefs; iii) lack of information about the process; iv) general indecency; v) internal conflict; and vi) external conflicts. The way to solve these problems is to see which questionnaire scores of prominent students, and then the counselor specifically went on to solve the problem of the client. By using CDDQ, it can be determined the initial diagnosis of the student cause of career indecision.

This study is important for guidance and counseling practitioners. The results of this study can be used as a platform for designing career counseling programs for high school students. The result of this study is data related to the level of high school students' career indecision that can be used by the Ministry of Education as a strategy to handle student career indecision. Students' career indecision making vocational choices is attributed to a deficiency in information and understanding of career paths. The findings have motivated researchers to actively contribute to the study of career indecision. The limitation of this study has not noticed whether respondents had received career guidance and counseling services before filling out the CDDQ questionnaire. In this study, CDDQ is effective in measuring students' career indecision, However, the benefit of using CDDQ will be more felt when a consultant can analyze the client's response to each question item to get a better understanding of the client's needs in providing more effective career counseling.

4. CONCLUSION

Based on the results and discussion, the results of the independent sample t-test indicated that there are differences in career indecision between male and female students. As a result, it becomes important for the researchers to consider gender as a factor causing career indecision. The limitation of this research is that

the sample size of males and females is less balanced. Data imbalance in this study was overcome by undersampling techniques. Undersampling is a balance by reducing classes that appear more frequently. Moreover, the results of the descriptive analysis showed that most students were in the salient category. For that reason, assistance from counseling career services is needed because they are unable to decide something for their careers. Counselors can look back on CDDQ students' scores from career indecision. The results of this study can be utilized to create programs or career interventions in career guidance and counseling services.





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