

# Relationship between Adversity Quotient and Mastery Goal Orientation with Independence of Career Decision at Industry 4.0 in Vocational Students

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## Abstract

Vocational students as prospective workers are important to have independence of career decision at industry 4.0 (Y) so that can keep up and compete with the era. Adversity quotient (X1) and mastery goal orientation (X2) are needed as aspects that support independence of career decision at industry 4.0 (Y). This study aims to decide: (1) description of Y, X1, and X2; (2) relationship of X1 with Y; (3) relationship of X2 with Y; and (4) relationship of X1 and X2 with Y. This research is an Ex Post Facto using quantitative research methods. The reliability levels of the Y, X1, and X2 variable questionnaires are 0.846, 0.872, and 0.880, respectively. The effective contribution of X1 is 33.8%, X2 is 42.8% and the relative contribution of X1 is 44.1% and X2 is 55.9%. The conclusions of this study are: (1) X1, X2, and Y levels are in the high category; (2) there is a positive and partially significant relationship between X1 and Y, X2 and Y, and X1 and X2 simultaneously with Y.

**Keywords:** Independence of career decision at Industry 4.0; adversity quotient; mastery goal orientation.

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## INTRODUCTION

Vocational High School (SMK) is a formal educational institution that has a specific goal of preparing graduates to be ready to work. One of the vocational high school programs in realizing these specific goals is to fulfill the competence of their students in various fields needed by work. There are two factors in fulfilling the competence of students, namely psychological and non-psychological factors. (Firdaus, 2019) explained that psychological factors should get more attention than other factors.

One of the important psychological factors for students is independence. Independence is a form of behavior that a student can understand himself and his abilities, decide the choice of consequences of his actions, and will not be affected let alone ask for help from others. The independence that is considered important for vocational students is independence in career decision which is it will be their way of life in the future. Career decision made at the beginning of the student's vocational development process will affect subsequent choices.

Facts that can be seen today are many vocational high school Students graduates who do not work or become unemployed. The Central Statistics Agency (BPS) Malang City, (2020) released data that as many as 13,174 vocational high school students graduates in Malang City did not have

a job or were unemployed. The number of unemployed vocational high school Students graduates is exacerbated by the development of the industry 4.0 in which some tasks that humans normally do can be replaced by robots. (Schwab, 2017) said that industry 4.0 had a negative impact in the form of mass unemployment. (Fadli, et al, 2019) states that one of the things that has changed in the industry 4.0 is the career development of students.

Based on the results of observations in the form of interviews with one teacher and several students who graduated from the Electrical Power Installation Engineering (TITL) vocational high School by the author, it was revealed that many students who graduated from the TITL Vocational high school in Malang City chose careers not of their own will. Some of them have careers based on their parents' choice, others follow their friends, and some are required to continue their parents' business. The high number of unemployed vocational high school students graduates and the results of observations indicate that many vocational high school students graduates are not independent in decide their careers.

Reveal that one indication of vocational students who are ready for a career or independent in career decision are those who have an adversity quotient (Wibowo & Suroso 2016). Explained that someone with a high adversity quotient is characterized by being able to locate, identify, and be responsible for the problem (Lukmana, 2017). The problem can be assumed to be the independence of decide student careers in the era of the industry 4.0. So, it can be said that if students have a high adversity quotient, then these students have independence in decide the right career for their future.

In addition to adversity quotient, there is also a mastery goal orientation. Students who have the ability in (Mayasari, 2011) explained that they do not feel threatened by failure to get something because they will focus on trying to solve a problem. The student's problem in question can be assumed as independence in decide their career in the industry 4.0. Based on the facts from the observations that have been made and explained previously, there are still many students who choose careers not of their own will. So, it can be said that if students do not have mastery goal orientation, then these students are not independent in career decision.

Psychology Dictionary by (Chaplin, 2011) explains that independence is interpreted as a condition in which a person does not depend on others in making decisions and has an attitude of confidence. Independence according to (Prafitri, et al, 2013) is self-directed behavior, which is to act independently and actively and freely in making decisions, opinions, judgments, and responsibilities. (Kurniawati, 2014) explained that independence is the level of individuals development who can stand alone and rely on their own abilities to carry out various activities and solve various problems their self. Independence can be interpreted as a form of a person's behavior to make choices in life without depending on others. (Restayanti, 2013) adds that the independence of an individual can be decided from responsibility, perseverance, hard work, thinking, and being able to take the initiative to innovate in their activities. Independence is very much needed at this time, namely in the industry 4.0. (Helaluddin, 2018) explained that industry 4.0 has caused fundamental changes to human life and work. Changes in the industry 4.0 require independence to adapt and then develop in it.

Based on the literature review above, independence of career decision at industry 4.0 has a definition, namely a form of student behavior in decide their career by themselves without depending on others during the industry 4.0. In order to measure the level of independence of career decision at industry 4.0 in vocational students, the following indicators have been developed, namely: 1) critical thinking and responsibility in decide careers; 2) persevering and taking the initiative to do something without the help of others; 3) work hard and be highly motivated to achieve their career goals; 4) creative and innovative in carrying out activities; 5) collaborate in self-development; and 6) skillful in communicating and confident in digging up career information (ASCA, 2012; Hartono, 2016; Marlina & Jayanti, 2019; Rachmanto, et al., 2016; Restayanti, 2013).

Adversity quotient consists of two English words, adversity which means failure or misfortune, and quotient which means someone's ability. So that the adversity quotient can be

interpreted according to language, namely a person's ability to face failure or misfortune. Accordance with (Hidayat, 2017) who explains that the adversity quotient is a person's ability to overcome difficulties. (Hidayat & Sariningsih, 2018) explained adversity quotient makes someone perceive difficulties as challenges to be conquered by observing difficulties and then processing those difficulties using the skills they have.

Adversity quotient according to (Hardianto, Y. & Sucihayati, 2018) can be used to understand an individual can fulfill his potential and achieve his goals or not. Not only that, but it is also explained that the adversity quotient can also predict which individuals will give up and who will survive until the end to realize their goals. This statement is relevant to (Phoolka, S. & Kaur, 2012) which states that adversity quotient has been carried out on various objects such as students, teachers, employees, managers, and others where the results prove that adversity quotient is able to improve optimism, leadership style, work performance, and motivation. response to change. Vocational students according to (Chandra, et al, 2019) often have difficulty in learning new things to compete in the industry 4.0. Some examples of their difficulties are when learning AutoCAD, Programmable Logic Control (PLC), and Arduino microcontrollers. (Supardi, 2013) said that the success of students in learning depends on the way students overcome the difficulties they face.

As an indicator in measurement, the Adversity quotient must have several aspects that can be used to decide the level. (Hulaikah, et al, 2020) explained that the adversity quotient has four dimensions, namely: 1) control; 2) origin and ownership; 3) reach; and 4) endurance. These four dimensions are commonly abbreviated as "CO2RE". The first aspect is, Control. Control is the individual's ability to control the problems being faced, survive in the face of adversity, remain firm in his intentions, and be nimble in finding solutions to problems (Khusna, et al, 2017).

The second aspect is origin and ownership. Origin is an individual's perception of the causes of the problems being faced, while ownership is an individual's acknowledgment of the consequences of existing problems whatever the cause (Dluha, et al, 2020). The third aspect of the adversity quotient is reach. Reach is an individual's ability to limit the problems faced so as not to reach other parts of his life (Utami, et al, 2020). The last aspect is endurance. Endurance is an individual's perception of how long the causes of the problems experienced will continue and how long they can be resolved (Yanti & Syazali, 2016).

Mastery goal orientation is one of several types of goal orientation. Goal orientation according to (Pradhata, & Muhid, 2021) is the reason or goal of an individual to achieve a goal so that self-confidence appears. goal orientation (Maryati, 2015) describes Mastery goal orientation if interpreted according to language, namely mastery goal orientation, then it can be defined as the view that underlies an attitude to achieve the goal of mastery. The purpose of mastery is that individuals will be more concerned with understanding something and its progress than values or appreciation from others (Ulfah, N. & Listiara, 2017).

Mastery goal orientation in (Schunk, 2012) is defined as focusing on learning, mastering tasks according to self-decided standards or self-development, increasing competence, developing new competencies, trying to gain insight, and trying to achieve something challenging. (Belenky, D. M. & Nokes-Malach, 2012) explained that mastery goal orientation is a student's effort to understand and improve their knowledge and insight. Students who have a mastery goal orientation will have an inner motivation to understand, master, and complete a task or activity confidently and motivated. Students who have a mastery goal orientation in (Keachies, 2014) will make learning strategies and try to find help to overcome difficulties in their learning. This is in line with the results of research by (Gonida, et al, 2014) which shows that students who have a mastery goal orientation willing to seek help and will feel the benefits. A high mastery goal orientation will have an influence on the level of student engagement in school students (Mahesa, M. F. & Gagan, 2013).

To decide the level of mastery goal orientation in students, need aspects of mastery goal orientation. (Putro, et al, 2019) revealed eight aspects of mastery goal orientation, namely: 1) awards; business in the learning process; 2) success, improvement; 3) reasons for satisfaction,

ability to overcome obstacles; 4) teacher orientation, student learning methods; 5) views about mistakes, addressing in the event of failure; 6) the center of attention, the learning process; 7) reasons for trying, understanding new things; and 8) evaluation criteria, assessing final result.

Based on the theory that has been described, it is important for students to have independence of career decision at industry 4.0 in dealing with dynamic changes in the times with various technological developments. Adversity quotient is needed by students in terms of facing difficulties or problems in the learning process and the career decision process. Meanwhile mastery goal orientation can be the basis for students to master something with the aim of decide a career according to their field of expertise.

The quality of vocational high school graduates reflects the reality of vocational education in Indonesia today which has not met expectations. Vocational high schools are expected to be able to form graduates who are ready to work and be independent in career decision at industry 4.0. Therefore, research with the topic "Relationship between Adversity Quotient and Mastery Goal Orientation with Independence of Career Decision at Industry 4.0 in Vocational Students" needs to be implemented to provide benefits to improving human resources, especially for vocational students.

## METHODS

This research uses a quantitative method with a descriptive correlational design and is ex post facto which explains the relationship between three variables, namely two independent variables and one dependent variable. The independent variables studied were adversity quotient (X1) and mastery goal orientation (X2). While the dependent variable is the independence of career decision at industry 4.0 (Y). The population of this research is the XII grade students of TITL (Electrical Power Installation Engineering) competence in Malang City which consists of SMK Negeri 6 Malang, SMK Nasional Malang, and SMK Muhammadiyah 1 Malang with a total of 93 students. The population was sampled using a purposive sampling with saturated sample type, that the entire population was sampled.

The instrument used in this research was a closed questionnaire. The questionnaire used a Likert with a score of 1–4 and was developed based on research variables, namely adversity quotient (X1), mastery goal orientation (X2), and independence of career decision at industry 4.0 (Y). The test subjects of this research instrument were students of TITL (Electrical Power Installation Engineering) competence outside the sample population as many as 32 respondents.

The data analysis techniques used are: 1) instrument validity test; 2) instrument reliability test; 3) analytical prerequisite test which includes: normality test, linearity test, multicollinearity test, heteroscedasticity test; and 4) hypothesis testing which includes: partial correlation analysis and multiple regression analysis. The data analysis process uses the SPSS application. In hypothesis testing, if the value of  $p_{sig} < p_{standard}$  ( $p_{sig} < 0.05$ ) then  $H_0$  is rejected, which means that there is a positive and significant relationship between the variables tested.

## FINDING AND DISCUSSIONS

The result of independence of career decision at industry 4.0 can be seen in the table below:

**Table 1. Frequency Distribution of Independence of Career Decision at Industry 4.0**

No.	Category	Percentage (%)
1	Very High	33,34%
2	High	46,23%
3	Moderate	13,98%
4	Low	6,45%
5	Very Low	0%

Table 1 informs the level of independence of career decision at industry 4.0 in vocational students is high. The results of the high independence of career decision at industry 4.0 indicate that vocational students can decide their careers by themselves without relying on others to deal well with industry 4.0 nowadays. The result of adversity quotient can be seen in the table below:

**Table 2. Frequency Distribution of Adversity Quotient**

No.	Category	Percentage (%)
1	Very High	21,50%
2	High	40,86%
3	Moderate	21,96%
4	Low	9,68%
5	Very Low	0%

Table 2 informs the level of adversity quotient in vocational students is high. The result of mastery goal orientation can be seen in the table below:

**Table 3. Frequency Distribution of Mastery Goal Orientation**

No.	Category	Percentage (%)
1	Very High	17,20%
2	High	44,09%
3	Moderate	31,18%
4	Low	6,45%
5	Very Low	1,08%

Table 3 informs the level of mastery goal orientation in vocational students is high. Before testing the hypothesis, it is necessary to test the analytical prerequisites. The results of the analysis prerequisite test are known that  $P_{sig} < 0.05$  then all data variables are normally distributed. In the linearity test, each independent and dependent variable partially shows a linear relationship. Based on the results of the research, there was no multicollinearity, no autocorrelation, and no heteroscedasticity. The following results of partial relationship hypothesis testing can be seen in the table below:

**Table 4. Result of Partial Correlation Analysis**

Partial Relationship	Probability	Interpretation
	$P_{sig} < P_{standard}$	
Adversity Quotient - Independence of Career Decision at Industry 4.0	0.000<0.05	Significant
Mastery Goal Orientation - Independence of Career Decision at Industry 4.0	0.000<0.05	Significant

Based on Table 4 it can be seen  $P_{sig} < 0.05$  that means  $H_0$  rejected, so there is a positive and significant relationship between adversity quotient with independence of career decision at industry 4.0 and mastery goal orientation with independence of career decision at industry 4.0 in vocational students. The results of simultaneous relationship hypothesis testing can be seen in the table below:

**Table 5. Result of Multiple Linear Regression Analysis**

Sig. F	Coefficient			R	R Square
	Const.	$X_1$	$X_2$		
0.000	2.505	0.467	0.626	0.876	0.767

Based on Table 5 the results of multiple regression analysis that revealed the relationship between adversity quotient and mastery goal orientation with independence of career decision at industry 4.0 were in accordance with the requirements, namely  $F_{sig} < F_{standard}$  ( $0.000 < 0.05$ ). This means  $H_0$  rejected, so there is a positive and significant relationship between adversity quotient and mastery goal orientation with independence of career decision at industry 4.0 in vocational

students. The strength of the resulting relationship is included in the close category with a correlation coefficient (R) of 0.876. The value of R Square is a value that shows the percentage of the contribution of the influence of the independent variable on the dependent variable in this research, which is 76.6%.

Based on the data in Table 5, the following regression equation can be generated as  $Y = 2.505 + 0.467 X_1 + 0.626 X_2$ . This equation can be interpreted that the value of independence of career decision at industry 4.0 will be worth 2.505 when it is not influenced by independent variables. Simultaneously, the adversity quotient and mastery goal orientation will affect the value of independence of career decision at industry 4.0 with an increase in value of 0.467 for every increase in one unit of adversity quotient and an increase in value of 0.626 for every increase in one unit of mastery goal orientation. The contribution of each independent variable to the dependent variable in this research is shown in Table 6 below:

**Table 6. Effective and Relative Contribution**

Predictors	Effective Contribution	Relative Contribution
Adversity Quotient	33.8%	44.1%
Mastery Goal Orientation	42.8%	55.9%
<b>Total</b>	<b>76.6%</b>	<b>100%</b>

Based on Table 6 the two independent variables have a significant effect on the dependent variable (independence of career decision at industry 4.0), although there is a contribution of 23.4% from other variables and factors not investigated in this research. The relative contribution of adversity quotient and mastery goal orientation variables to independence of career decision at industry 4.0 was 44.1% and 55.9%. The effective contribution of the adversity quotient and mastery goal orientation variables was 33.8% and 42.8%.

Independence of career decision at industry 4.0 in the Introduction above is described as having six indicator components. The process of integrating these six components to realize the independence of career decision at industry 4.0, a student requires the ability to overcome problems (adversity quotient) and a view to achieving goals (mastery goal orientation). The current condition of the industry 4.0 makes technology and information continue to develop. This requires vocational school graduates who could solve problems (adversity quotient) and views to achieve goals (mastery goal orientation). Both are expected to produce competent vocational students and be able to independently decide a career that fits the times.

That students who have an adversity quotient will be better able to overcome the difficulties they face, while students with a lower adversity quotient to view difficulties as the end of the struggle (Supardi, 2013). This has an impact on student success in student difficulties when realizing their career goals in the industry 4.0. In accordance with (Hardianto, Y. & Suciayati, 2018) which explains that the adversity quotient can be used to understand an individual can fulfill his potential and achieve his goals or not. If students have good abilities in dealing with difficulties, then students also have independence in decide a choice to be made, namely a career in the industry 4.0. In line with the results of research by (Rahim, 2017), the adversity quotient is very helpful in increasing independence in dealing with situations in the environment so that individuals will be able to think and act on their own.

Individuals with a mastery goal orientation will have a desire to master knowledge as a form of independence in learning (Pengaruh Goal Orientation Terhadap Self-Regulated Learning Pada Mahasiswa Baru Yang Merantau, 2019). One form of development of independence in learning is independence in decide careers, especially in the industry 4.0. Individuals with a mastery goal orientation will be more concerned with understanding something and its progress than values or appreciation from others (Ulfah, N. & Listiara, 2017). Independent students tend not to care about other people's words that are not in accordance with their position. However, the independence that students have with mastery goal orientation does not mean they don't want to accept the help of others. (Gonida, et al, 2014) stated that students who have a mastery goal orientation willing to seek help and will feel the benefits.



Based on the results of the explanation above, it can be indicated that a student who has a high level of adversity quotient and mastery goal orientation will have the independence of career decision at industry 4.0. Vice versa if a student has a low level of adversity quotient and mastery goal orientation, the level of independence of career decision at industry 4.0 will be low.

## CONCLUSION

Based on the finding and discussions that have been described, the following conclusions can be drawn: 1) Independence of career decision at industry 4.0 in the high category; 2) Adversity quotient in the high category; 3) Mastery goal orientation in the high category; 4) There is a positive and partially significant relationship between adversity quotient and independence of career decision at industry 4.0 in vocational students; 5) There is a positive and partially significant relationship between mastery goal orientation and independence of career decision at industry 4.0 in vocational students; 6) There is a simultaneous positive and significant relationship between adversity quotient and mastery goal orientation with independence of career decision at industry 4.0 in vocational students; and 7) The contribution to independence of career decision at industry 4.0 shows that the mastery goal orientation is higher than the adversity quotient, both in terms of relative contribution and effective contribution.

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