

The Rasch Model For Exposing Academic Dishonesty: That Student Who Mastery The Task Will Avoid To Cheating?

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Abstract: This study aims to find out an indication of academic dishonesty indicated and agreed upon by students and related to the orientation of mastery goals. Researchers propose the following hypothesis: Mastery orientation can negatively predict academic dishonesty. Research method was descriptive and correlational. A total of 307 subjects were students who had taken the first two semesters of lectures from several universities in Indonesia. The Academic Dishonesty Scale with $\alpha = .81$ (ADS; McCabe et al., 2001) and The Goal Orientation Scale with $\alpha = .83$ (GOS; Button & Mathieu, 1996). The Rasch model is used as a descriptive data analysis method to demonstrate the suitability of research instruments and multiple linear regression analysis to show inferential relationships. In accordance with the hypothesis of this study, the orientation of mastery goals is a negative predictor of academic dishonesty and is strengthened by the existence of a negative relationship. The findings in this study are discussed more deeply.

Keywords: Academic dishonesty, mastery goal orientation, rasch model

1. INTRODUCTION

Student achievement is influenced by several factors, academic competence shown by the understanding of the materials that have been explained by the teacher and relationship with the management of learning time (Sansgiry, Kawatkar, Dutta, & Bhosle, 2004). Learning motivation contributes to achievement (Kruck & Lending, 2003). Generally, achievements are carried out in ways that demonstrate academic integrity, that is cheating, lying, plagiarism, and violating rules for personal gain or harming others (Center for Academic Integrity, 1999). But there are still found effort that does not show integrity to achieve the expected achievements in the form of academic dishonesty.

Geddes (2011) found several behaviors that indicate academic dishonesty such as copying assignments, giving friends permission to copy their assignment, conducting unauthorized collaboration, giving answers during exams. Some studies focus on understanding the dynamics of behavior and ways to reduce or eliminate them. Other research shows that there is a positive correlation between academic dishonesty conducted at this time and dishonest behavior carried out in other fields in the future. Nonis and Swift's (2001) research shows that there is a correlation between academic dishonesty at university and dishonesty in organizations in their work. When this behavior is not reduced and prevented, at some stage the behavioral characteristics will be settled and adapted to a broader field (Elias, 2009).

Besides students, dishonest behavior in academics is also practiced by teachers. It is reported that dishonest behavior in academics is carried out in various levels of education, from basic education to higher education (Ding et al., 2014; Purnamasari, 2013). Academic dishonesty is influenced by

individual internal and external factors. Internal factors such as motivational factors, academic goal orientation, level of mastery provide reinforcement for behavior. In the academic context, academic orientation is seen as an important determinant of this behavior (Whitley Jr, 1998). Generally, individual goal orientation is considered a characteristic of behavior that is stable or likely to be fixed (Payne, Youngcourt, & Beaubien, 2007).

The goal orientation is divided into mastery goals and performance goals. Individual goal orientation is not mutually exclusive and is not dichotomous behavior. It is possible for individuals to have and use both goal orientations at the same time. Several studies report that individuals with mastery goal orientation show low levels of academic dishonesty. Individuals with mastery orientation are indicated by the use of strategies in achieving effective achievements, the use of sustainable business, the need to understand, and the representation of motivation in the form of performance achievement (Anderman & Wolters, 2006; McCabe, Feghali, & Abdallah, 2008). In general, mastery-oriented individuals focus and strive based on intrapersonal achievement (Dweck, 1986).

(Anderman and Danner (2008) argue that when students focus on mastery, the possibility of engaging in academic dishonesty is low or can be minimized because dishonest behavior does not affect mastery of the task. Stephens and Gehlbach's (2007) research findings show that mastery goal orientation is a negative predictor of students' tendency to engage in certain types of cheating behavior. Similar findings by Apostolou (2015) explain the existence of a negative relationship between the orientation approach to mastery goals and cheating behavior. Mastery goals have a positive relationship with process and adaptive motivation, so the possibility for academic dishonesty is at a low level (Hulleman, Schrager, Bodmann, & Harackiewicz, 2010).

The benefit of this research is to verify and provide new insights into previous research and motivate the emergence of other research in different cultural backgrounds and fields. Responding to the results of previous studies, researchers believe the ability of the orientation of mastery in negatively predicting academic dishonesty. This study aims to investigate the description of indications of academic dishonesty carried out and agreed upon by students and related to the orientation of mastery goals. Although there are differences in research results, the researcher proposes the following hypothesis: Mastery orientation can negatively predict academic dishonesty.

2. METHODOLOGY

Quantitative approaches with non-experimental designs are used in this research. Primary data is collected through research instruments distributed online using the Google form platform. Correlational research is used to determine the relationship between observed variables. Academic dishonesty is a pattern of dishonest behavior in the academic field at the time of testing and completion of tasks where situationally can be done. Mastery orientation is a cognitive representation aimed at intrapersonal self-development.

2.1 Respondent

Research subjects are students who have taken two semesters. Previous research findings that show the existence of dishonest behavior in the academic field are the basis for choosing students as research subjects. Sampling technique using convenience sampling techniques. A total of 307 student subjects from several universities in Indonesia were obtained and analyzed. Table 1 shows the profile of subjects with demographics: gender, age, semester and university. Most subjects are in the age of 20 to 22 years, are in semester 7 to 8 and come from private universities.

Table 1: Characteristics of subjects (N = 307)

Category	Details	Quantity	Percentage
Gender	Male	124	59,60 %
	Female	183	40,40 %
Age	17–19	76	24,80 %
	20–22	175	57,00 %
	23–25	48	15,60 %
	26–29	8	2,60 %
	>29	0	0,00 %
Semester	3–4	97	31,6 %
	5–6	87	28,30 %
	7–8	109	35,50 %
	>8	14	4,60 %
University	State University	130	42,35 %
	Private University	177	57,65 %

2.2 Instrument

Academic dishonesty is measured by The Academic Dishonesty Scale (ADS; McCabe, Trevino, & Butterfield, 2001) with 8 items. Statement example: "copying from another student during a test without his/her knowledge". Mastery goal orientation is measured by The Goal Orientation Scale (GOS; Button & Mathieu, 1996) with 8 items. Statement example: "I'm happiest at work when I perform tasks on which I know that I won't make any errors". Both research scales were arranged in a likert ranking data format at the level of answers strongly disagree (1) to strongly agree (4). The middle option is not used in this measurement because the firmness of the subject's attitude is considered important (Friedman, Wilamowsky, & Friedman, 1981). Higher scores explain higher behavioral tendencies and orientation.

2.3 Data Analysis

The research instrument used for measurement was a questionnaire that produced ordinal data. The Rasch model is used as an analysis method because the ordinal data obtained will then be converted into interval data (into a logit score). The Rasch model can accurately predict all items that fit the measurement model, using the person parameter and the item parameter on the same instrument. Item and person fit statistics indicate the extent to which the data obtained is appropriate, shows reliability, complies with the basic stages and provides information about measurement quality.

The Winsteps data processing device version 3.73 is used in this study for the convenience of practical research. Logit scores as interval data, then analyzed correlational tests using Pearson product-moment and simple linear regression. The researcher assumes that in order to know the ability of the mastery orientation variable in predicting academic dishonesty, one must meet the assumption of correlation between variables.

3. RESULTS

3.1 Instrument Reliability

Cronbach's Alpha coefficient (α) shows the consistency index of internal reliability. Academic dishonesty instruments have an α value of 0.81 and a mastery orientation scale has an α value of 0.83. This result means that the two research instruments have good reliability and show the suitability between the person with the item attribute used. Item reliability scores on the academic dishonesty scale and mastery orientation are > 0.8, indicating that the quality of the items used has excellent reliability (Sumintono & Widhiarso, 2014). A score of 0.78 on the person reliability and 0.99 of the item reliability of academic dishonesty instrument means that the consistency of answers from people is sufficient on the quality of items in a very good instrument. Likewise in the instrument of goal orientation mastery, score 0.75 on the person reliability and 0.95 item reliability of the instrument.

The items on the mastery orientation scale produce a point separation score of 4.35 (rounded to 4), showing that there are four groups of item difficulties, ranging from the most difficult to agree to the most easily agree. The items on the academic dishonesty scale produce a score of 8.75 points (rounded to 9) which means that there are nine groups of difficulty items, from the most difficult to agree to the most easily approved. Using the formula $H = [(4 * Separation) + 1] / 3$ from Sumintono and Widhiarso (2014) obtained a score of respondents' separation on an academic dishonesty scale of 2.82 (rounded to 3), meaning that there were three groups of respondents from the most agree to disagree with dishonest

behavior in academics. The separation score of respondents on the mastery goal orientation scale is 2.64 (rounded to 3), meaning that there are three groups of respondents from the easiest to agree to the most difficult to agree with the mastery goal orientation.

3.2 Variable Description

In general, academic dishonesty in students shows a low level (negative logit), in other words students show low academic dishonesty. The tendency of academic mastery goal orientation on students shows a high level (positive logit), in other words students have high mastery goal orientation.

Table 2: Summary of instrument statistics (person and item reliability)

	Mean	Separation	Reliability	Cronbach (α)
Academic Dishonesty				
Person	-1.58	2.82	0.78	0.81
Item	0.00	8.71	0.99	
Mastery Orientation				
Person	2.97	2.64	0.75	0.83
Item	0.00	4.35	0.95	

Fig. 1 explains the distribution of persons and items on academic dishonesty instruments. On the left shows the distribution of people according to the logit score, starting from the person who disagrees the most (logit score = -6.58) to the person who most agrees (logit score = +6.47). On the right, Figure 1 displays the difficulty level of each item, starting from the most difficult to agree (logit score = +1.37 in A2) to the easiest item to agree (logit score = -1.47 in item A1). Item A1 is also in the position of the average person, which means that the probability of the subject agreeing to item A1 that says "copying from another student during a test without his/her knowledge" is balanced.

difficulty level (item P1), most (90%) subjects agreed and the rest (10%) disagree.

More than 50% of the subjects agreed with item A1 and 38% of the subjects agreed with the item that reads "when working on an assignment, I copy several sentences without giving a footnote (citation source)". As many as 35% of subjects agreed to the item that said "copying a few sentences of material from a published source without footnoting it ". Item A2 is the most difficult item to agree with the statement " ; copying from another student during a test without his/her knowledge". The points in this instrument are able to separate each respondent, in other words have a good discrimination ability.

Figure 2 explains the distribution of persons and items in the instrument of orientation in mastery goals. On the left shows the distribution of people according to the logit score, starting from the person who is the most difficult to agree (logit score = -6.14) to the person who is the easiest to agree (logit score = +7.24 in A2). In general, the subject has a high mastery goal orientation. Figure 2 explains that at the highest

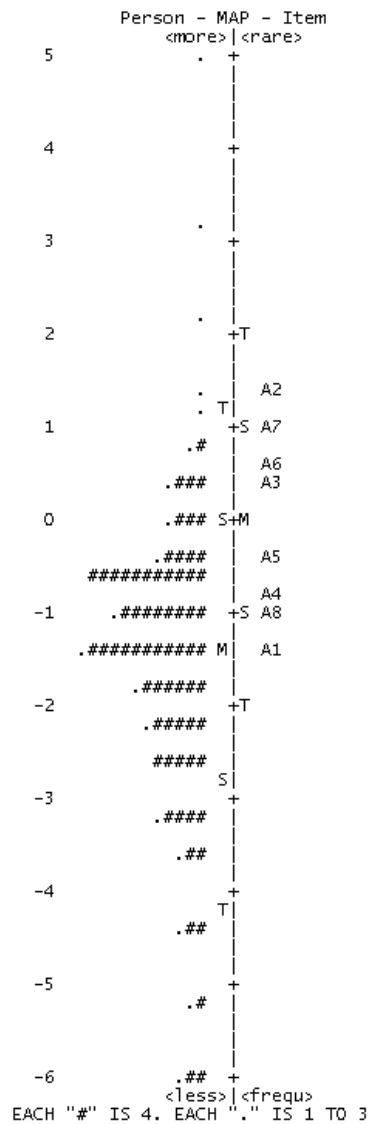


Fig. 1. Item-person map of academic dishonesty

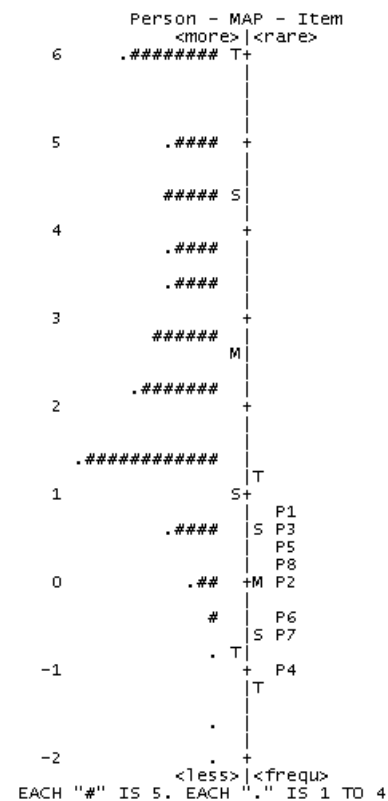


Fig. 2. Item-person map mastery goals orientation

Correlational analysis using logit scores, showed that there was a significant negative relationship between variables ($r = -0.179$; $p < 0.01$). After the correlation assumptions are met, then a linear regression analysis is performed. The results of the regression analysis showed that the orientation of mastery goals (X) could predict negatively ($B = -0.152$; $p < 0.00$) towards academic dishonesty (Y). The increasing orientation of the subject mastery goals will be accompanied by a significantly low level of academic dishonesty. The mastery goal orientation is able to contribute (r^2) by 3.2% towards academic dishonesty, the rest is influenced by other variables. Thus, the hypothesis of this study was accepted.

Table 3: Correlation Between Variables

Variable	Mastery Goal Orientation
Academic Dishonesty	-0.179*

Table 4: Linear Regression of Masteri Goal Orientation toward Academic Dishonesty

Model	B	p
(Constanta)	-1.127	0.000
Mastery Goal Orientation	-0.152	0.002

4. DISCUSSION

Correlation and regression analysis results in the study prove that the mastery goal orientation has a significant negative relationship and becomes negatively predictive of academic dishonesty. The results of this study provide confirmation and support for previous research. Similar to David's research (2015) which shows that mastery goals are negatively correlated with academic dishonesty. Students with mastery orientation relate to belief in their abilities (Widyaningsih & Budiningsih, 2016). The research findings of Stephens and Gehlbach (2007) explain that mastery-oriented individuals have self-involvement in the task and the need to understand the material. As such, the practice of cheating during tests and plagiarism for task completion is irrelevant and ineffective in increasing mastery and understanding.

Although academic dishonesty is mostly caused by feelings of fear of failure and the desire to help friends to cheat (Duff, 1998), individuals with high mastery are indicated by a low propensity to fear failure, so cheating behavior or plagiarism tends to be low. By focusing on mastery, students are able to achieve competence in tasks and fulfill intrapersonal goals (Elliot & Murayama, 2008). Described by (Vandewalle, 2003) that mastery-oriented individuals are actively seeking and needing feedback from the results that have been achieved before, evaluating and developing a positive direction.

This study reports that students have high mastery goal orientation. The mastery goal orientation is able to negatively predict academic dishonesty so that a low level is obtained, but that does not mean students do not have the potential for dishonest behavior in the academic field. There is still potential for behavior, but at a low level. Other findings in this study indicate that more than 50% of students tend to approve the copying (cheating) behavior of classmates' work with their permission. Even though the individual has a high mastery orientation, the tendency to cheat the work of a friend with his permission is shown to be a greater probability in this study.

Implicitly, it can be understood that among peers, students tend to provide assistance during the test. Although as many as 35% of the subjects agreed to the items that showed the provision of assistance in the form of cheating in the test. These results can indicate that the subject tends to pretend to be good (faking good). This evidence can be explained through the results of research Poortvliet, Janssen, Van Yperen, and Van de Vliert (2009) which provide evidence of a positive correlation between the tendency to help others (collaborate) with the orientation of the goal of mastery. More clearly in previous studies it was explained that mastery-oriented individuals tend to behave cooperatively in the form of sharing information related to tasks and show low suspicion towards information exchange partners (Poortvliet, Janssen, Van Yperen, & Van De Vliert, 2007).

Research by Bing et al., (2012) and Nathanson, Paulhus, and Williams (2006) illustrate that cheating behavior is a collusive behavior that involves other students and is done more by collaborating than by themselves (solo). The mastery orientation is indicated by looking for reciprocity and responding to reciprocity providing support for yourself to share information that is beneficial to peers. Students who master the material tend to be tolerant of the inability and limitations of the ability of peers who lead to failure. In general, individuals with mastery orientation are able to follow the norms of reciprocity when exchanging information. Individuals with mastery goals, mostly compare their current performance based on mastery of previous performance and hereby develop a reference focus on intrapersonal self-development. Thus, empirical data from this study can confirm the theoretical review and results of previous studies.

5. CONCLUSION

The study aims to predict mastery goal orientation toward academic dishonesty. Similar to the hypothesis of this study, the orientation of mastery goals is a negative predictor of academic dishonesty and is strengthened by the existence of a negative relationship between the two. The findings in this study indicate that students tend to approve the cheating behavior of work permitted friends.

There are several findings in this study to further be used as implications for teaching and learning practices. If educators expect fewer phenomena of cheating and plagiarism, a context of learning that is centered and based on mastery and enhancement will have to be done. Although the situation of competition in the academic environment is a challenge that provides encouragement to students to further increase the potential for dishonest behavior, so the expectation of mastery goal orientation is to be increased. Designing assessment and evaluation of learning becomes more personal to focus more on mastery and encourage the need to understand.

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