The Influence of Self-Regulated Learning, Goal Orientation, and Demographic Variables on Jakarta 41 States Vocational High School Students’ Cheating Behavior

Indri Lestari
Universitas Islam Negeri Syarif Hidayatullah
Jakarta, Indonesia
lestarindrisoleha@gmail.com

Diana Mutiah
Universitas Islam Negeri Syarif Hidayatullah
Jakarta, Indonesia
diana.mutiah@uinjkt.ac.id

Abstract—Education is an empowerment process for building the life of the nation. The learning process becomes less healthy when the level of cheating behavior is high. In Indonesia, the behavior is displayed by people in all level of educations, from elementary to the highest educational institutions. Many people consider it reasonable, even though they know that cheating is a kind of corruption. Cheating must be minimized by knowing and anticipating the causes, including self-regulated learning, goal orientation, and demographic variables. Taking the causes of cheating into consideration, this study is designated to determine the effect of self-regulated learning (the cognitive strategy use and self-regulation), goal orientation (mastery-approach, mastery-avoidance, and performance-approach goal orientation), and demographic variables (gender and educational stage) on cheating behavior. The samples were drawn from 220 students of Jakarta 41 States Vocational High School consisting of 93 male and 127 female students in which the 113 of them were from 10th grade the rest were from the 11th grade. The samples were drawn using accidental sampling technique. The hypothesis is tested using multiple regression analysis and SPSS v.21.0 software. The results showed significant influence of all variables on cheating behavior. The proportion of variance of the model is 10.2%. Meanwhile, the rest is influenced by other factors exclusive of this study. In addition, correlation coefficient between cheating behavior each variable of the study showed self-regulated learning variable namely self-regulation plays a significant role on cheating behavior. Meanwhile, variable of self-regulated learning (cognitive strategy use), goal orientation (mastery, performance-orientation, performance-avoidance goal orientation) and demographic variables (gender and educational stage) are not significantly correlated with cheating behavior.

Keywords: cheating behavior, self-regulated learning, goal orientation, demographic variables

I. INTRODUCTION

Education is a process of empowerment in building intellectual life of the nation. According to Sarbiran [1] quality education has five benchmarks, namely accountability, accreditation, autonomy, management, and evaluation. Evaluation are reflected from educational achievement, as measured, for example, by National Exams (UN) scores that measure educational success. When the exams are set as academic standard, schools may compete and encourage their students to achieve good grade on the final exams.

Not only as academic standard, learning evaluations, like School and National Exams, are also used for assessing students’ performance and their learning ability, teacher performance, learning strategies, etc. As academic standards, these exams will determine how good the students’ learning process so far. The learning process are unhealthy when a lot of the students cheat on exams. Many parties consider cheating as a somewhat reasonable, although they realize that cheating is at the root of corruption.[2]

Cheating behavior can be pervasive in the realm of education. Anderman et al [3] stated that students see cheating as a means of survival when they learn in an environment that stress competition and grades. Cheating behavior, according to Cizek [4], refers to any action that violates the established rules governing the administration of a test or the completion of an assignment. It also means any behavior that gives one student an unfair advantage over other students on a test or assignment; or any action that decreases the accuracy of the intended inferences arising from a student’s performance on a test or assignment.

This study showed that cheating behavior occurs in many educational levels. However, the population of this study were more focused on high schoolers. Brandes’s [5] research revealed cheating are higher in high school students than sixth graders because high school students have more experience in cheating and this behavior increases along with the grades. With the percentage of 71.3%, Evan and Craig’s (1990) research revealed that students of their research perceives cheating as serious problems in high school. Davis et al.[6 ] stated that high school...
students have expected cheating because the behavior has been pervasive. Cheating behavior is a common phenomenon in any level of education [7, 11]. According to Cizek’s [8], it peaks in high school.

Cheating behavior is also reflected from school examination leakage. It commonly occurs during distribution of the question’s sheets and the sheets are commonly leaked to students in tutoring programs. According to Jakarta Raya Head of Representative of the Ombudsman, Ombudsman can get information about leakage, one of them, were obtained by from parents’ reports during the evaluation of the National Standardized School Exam 2018 in the area of DKI Jakarta, Kota Bekasi, Depok, and Bogor (Jawapos.com)[9]. Other reports showed that Bekasi, Bogor, Bandung, Lamongan and Jakarta students cheat during the 2015 National Examination by using mobile phone and cheat sheet (cnnindonesia.com)[10].

There are many ways of cheating according to Masada and Dachmiati [11]. Students cheat using technologies (i.e phones), crib notes, printed materials, textbooks have been hidden under the desk or exam sheet and by asking the answers from friends, either with or without threatening. According to Prihantari [12], supervisors commonly caught students who cheats using crab notes, book(s) hidden under the exam sheet, or students who ask the answers by whispering to friends and those who use mobile phones. Hosny and Fatima [13] stated cheating is not a new phenomenon. The only recent change is in the way students cheat, mostly because of modern technology, such as mobile devices and wireless networks, facilitating students to access any information from websites that might be used for cheating.

Taking consideration into the abovementioned, the researcher conducted interviews with teachers and students of Jakarta 41 State Vocational High Schools to figure out the reasons why students cheat. From the interview, the researcher discovered that students cheat on exams whose subjects are difficult such as math and science. Anderman and Murdock (2007) stated that effective learning may hinder the use of cognitive shortcut during exams, but students prefer to cheat rather than using effective learning because they do not know how to use effective learning strategies and do not use their time well to utilize effective self-regulated learning strategies. According to Anderman, et al [16] found that middle school students who used deep-level cognitive processing strategies when doing science work are less likely to report cheating report or commit cheating behavior. Bong's research [17] showed self-regulation correlates significantly and negatively with cheating behavior.

Another internal factor that influence cheating behavior is one's goal orientation. Goal orientation is a reason or purpose related to academic behaviour. Different goals describe different response patterns. This pattern includes cognitive, affective, and behavioral components that reflect one's adaptability [18]. Anderman and Midgley (2004) stated cheating behavior is more prevalent among competitive school environments and school environments that focused on good grade (performance goals). In those environments, the cheating strategies that students use are more varied.

Anderman, et al. [19] research revealed that students who desire to learn or mastery certain information tend not to cheat, while students who hold goal orientation, such as academic achievements, grades, or some other performance-approached evaluation tend to cheat. Bong (2008) stated that cheating behavior is significantly and positively correlated with a performance-approach goal orientation and performance-avoidance goal orientation. Stronger-performance avoidance goals will increase cheating behavior.
Cheating behavior is not only affected by internal but also by external factors. According to Wade and Stinson [20] students may extend their behavior to other course and career when supervisors fail to take action when cheating behavior is observed. Students may think that a verbal reprimand by the instructor or a school official, together with a reduced grade for the course may be the normal consequences. Cheating behavior are also encouraged by opportunities, environment and examples students follow. Masada and Dachmiati (2015) stated that Jakarta students who participate in this study said that they cheat on exam because they have opportunity to do so, in which situation and environment excuse the behavior, and students have example to follow, which is, no other than their friends. Anderman and Midgley's (2004) stated that Cheating behavior increase in eight grade and in the end of ninth grade.

A. Theoretical Framework

1) Cheating behavior

Cheating behavior, according to Cizek, refers to any action that violates the established rules governing the administration of a test or the completion of an assignment. It also means any behavior that gives one student an unfair advantage over other students on a test or assignment; or any action that decreases the accuracy of the intended inferences arising from a student’s performance on a test or assignment. These definitions encompass comprehensive guide that fit with the requirements of this research, especially about actions, methods, and consequences of the behavior.

Cizek’s taxonomy of cheating is applied for this research to identify the type cheating that conduct by the students participating in this research. This taxonomy distinguish cheating into three categories, namely giving, taking, or receiving information from other persons contrary to the guidelines for the assignment or test, using any prohibited materials to complete an assignment or test, capitalizing on the weaknesses of persons, procedures, or processes to gain an advantage on an assignment or test. This dimension is applied in conjunction with other theory.

2) Self-regulated learning

According to Pintrich, self-regulated learning is an active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation, and behavior. Pintrich’s is employed in this research because the definition encompasses several aspects of cheating for example cognition, motivation and behavior as reflected in the behaviors of the students participating in this research.

There are two dimensions of self-regulation. First is cognitive-strategy use (saying word over and over to help remember, summarizing and paraphrasing textbook or learning material and outline the chapters of the book). Second is Self-Regulation (planning, monitoring, and regulating). Self-Regulated Learning of this research are measured using Pintrich dan DeGroot’s Motivated Strategies for Learning Questionnaire (MSLQ) because several elements of self-regulated learning are constituted in this questionnaire for example “I outline the chapters in my book to help me study”.

3) Goal orientation

Goal orientation is a reason or purpose related to academic behaviour. Different goals describe different response patterns. This pattern includes cognitive, affective, and behavioral components that reflect one’s adaptability (Midgley., Et al., 2000). Goal Orientation has three dimensions: mastery-approach, performance-approach and performance-avoidance goal orientation. Mastery goal deals with efforts aiming at attaining a standard of competence defined by self-improvement or skill development. Performance-approach goals are focused on the demonstration of competence relative to others. Meanwhile, performance-avoidance goals are concerned with avoiding failure in front of others. These three scales are contained in Patterns of Adaptive Learning Scales (PALS) used for measuring goal orientation.

4) Demographic variables

Cheating behavior can be influenced by demographic factors e.g gender, age, socioeconomic status, educational stage, gender, marital status, religion, ethnics, cultural differences, occupation. Each factor should be examined to identify the significant contribution to cheating behavior as previous research in which, male, higher grade students, students from independents prestigious school, unmarried students, and students who are not too religious tend to cheat rather than its counterparts.

5) Educational stage

Along with demographic factors, educational stage is considered as a factor influencing cheating behavior, mainly those are from higher grader.

6) Research hypothesis

Research hypothesis is built from theoretical framework, formulated as follows:

H1: There is a significant effect of self-regulated learning (the cognitive strategy use and self-regulation), goal orientation (mastery-approach, mastery-avoidance, performance-approach and performance-avoidance goal orientation), and demographic variables (gender and educational stage) on cheating behavior.
H2: There is a significant effect of strategic cognitive use of self-regulated learning on cheating behavior.

H3: There is a significant self-regulated learning on cheating behavior.

H4: There is a significant influence of mastery-approach goal orientation on cheating behavior.

H5: There is a significant influence of performance-approach goal orientation on cheating behavior.

H6: There is a significant influence of performance-approach goal orientation on cheating behavior.

H7: There is a significant influence of gender of demographic variables on cheating behavior.

H8: There is a significant influence of educational stage of demographic variables on cheating behavior.

II. METHOD

Samples were drawn from 220 students of SMK Negeri 41 Jakarta consisting 93 males and 127 females in which 113 of them were from tenth grade and the rest were from eleventh grade as shown from the table 1. The samples were selected by using accidental sampling technique. Cizek (2003)’s theoretical concept of cheating behavior was employed to detect cheating behavior. The self-regulated learning components, along with Pintrich and DeGroot (1990)’s Motivated Strategies for Learning Questionnaire (MSLQ) (the cognitive strategy use and self-regulation) were applied for identifying learning strategies and academic motivations of this research’s respondents. Midgley et al, (2000)’s Patterns of Adaptive Learning Scales (PALS) was used to investigate the relation between a learning environment and a student’s motivation, affect, and behavior. In this research, Students completed a personal achievement goal orientation questionnaire that we constructed from a subset of items in the PALS. The personal achievement goal orientation scale area consists of three scales that measure three different dimensions of achievement goal orientation: mastery goal orientation; performance-approach goal orientation and performance-avoidance goal orientation.

Self-Regulated Learning, goal orientation, and demographic variables are considered as independent variables, while cheating behavior is the dependent variables. The influence of independent variable on dependent variable is measured and calculated using t test. The t-test is formulated as follows:

\[ t = \frac{b_1}{S_{b1}} \]

Explanations:
- \( t \) = value of ‘t’ count
- \( b_1 \) = regression coefficient of IV (1)
- \( S_{b1} \) = standard deviation of b1

After t-test is calculated, the significance of each independent variable to dependent variable is analyzed using regression analysis (R-square). There is the following formulation.

\[ F = \frac{(\hat{R}^2 - R^2)(T-5)}{(1-R^2)(N-T-1)} \] with df=\((T-5)\) and \((N-T-1)\)

Explanations:
- \( \hat{R}^2 \) = new ‘R2’ value resulted from the addition of independent variable (IV) to the equation
- \( R^2 \) = ‘R2’ value before the addition of independent variable (IV) to the equation
- \( S \) = The number of independent variable (IV) at
- \( N \) = The amount of sample

III. RESULTS AND DISCUSSION

Table 1. R Square Table

| Model | R | R Square | Adjusted R Square | Std. Error of Estimate |
|-------|---|----------|-------------------|-----------------------|
| 1     | .319a | .102 | .072 | 9.06608 |

Table 2. Anova Table of Total Influence Of Iv On Dv

ANOVAa

| Model | Df | Mean Square | F | Sig. |
|-------|----|-------------|---|------|
| Regression | 7 | 281.94 | 3.430 | .002b |
| Residual | 212 | 8 | | |
| Total | 219 | 82.192 | | |

The table shows that the R Square is 0.102 or 10.2%. Influence of independent variables on dependent variable is 10.2%. The table also
demonstrate that \( p \) (probability) value = 0.002. Because the \( p \) value is less than 0.05 (not significant) the null hypothesis stating that “There is no significant influence from the variable of self-regulated learning (cognitive strategy use and self-regulation), goal orientation (mastery-approach, mastery-avoidance, performance-approach and performance-avoidance goal orientation), and demographic variables (gender and educational stage) are rejected.

It means that the significant influence from the independent variables on the dependent variable does exist.

![Figure 1: significance of the research variables](image)

The significance of each variable coefficient is tested using the \( t \) test, which is statistically significant if the \( p \) value is less than 0.05. Coefficient correlation between cheating and each variable are presented in table 3 (regression coefficients table). Among eight variable, only self-regulation variable (0.002) which has significant strong correlation with cheating behavior. The correlation of other seven variables with cheating behavior is not significant. These variables are cognitive strategy use (0.614), mastery-goal orientation (0.181), performance-orientation goal orientation (0.464), performance-avoidance goal orientation (0.092), gender (0.504), and educational stage (0.303) as illustrated by the figure above.

![Table 3. Regression Coefficients Table](image)

**Table 3. Regression Coefficients Table**

| Model | Unstd Coefficients | Std. Coefficients | \( t \) | Sig. |
|-------|---------------------|--------------------|--------|------|
| \( \beta \) | \( B \) | \( \text{Std. Error} \) | \( \text{Beta} \) | |
| 1 | Constant | 56.4 | 5.91 | 9.539 | .000 |
| | \( t \) | 16 | 4 | | |
| | Cog. Strateg Use | -.051 | .100 | -.048 | -.505 | .614 |
| | Self-Regulation | -.314 | .102 | -.270 | -3.075 | .002* |
| | Mastery GO | .119 | .089 | .105 | 1.342 | .181 |
| | Perf. Approach GO | -.058 | .079 | -.057 | -.733 | .464 |
| | Perf. Avoid GO | .152 | .089 | .132 | 1.695 | .092 |
| | Gender | .883 | 1.31 | .046 | .669 | .504 |
| | Educational Stage | 1.32 | 1.28 | .070 | 1.033 | .303 |

* significant variable (P<0.05)

Self-regulation variable has strong negative influence on cheating behavior because self-regulation levels of most students are moderate. According to Pintrich and DeGroot (1990), students who have self-regulation can manage themselves well and control their effort properly on classroom academic class. Besides, these students prefer not to cheat when they get assignments and administer difficult exams as supported by Bong’s (2008) research suggesting negative correlation between self-regulation and cheating behavior. People with high self-regulation tend not to cheat, and vice versa.

If someone has a high influence on self-regulation, the cheating behavior is low, and vice versa. Chotim and Sunawan [21] research demonstrated the same pattern in which self-regulation has negative correlation with cheating behavior. Students who participate in their research choose not to cheat when receive assignments and perform hard tasks.

When analyzed separately, the cognitive strategies and the variables of this research do not have correlation with cheating behavior. According to Pintrich and DeGroot [22], student students who develop cognitive strategy use tend to adopt learning...
method, such as saying word over and over to themselves to help them remember, summarizing and paraphrasing their textbook or learning material and outline the chapters of the book.

Given the abovementioned, this research also incorporated cognitive strategy use into the research instrument as research variable. After being tested, the variable has no correlation with cheating behavior. It is opposed to Anderman et als’ (in Jurdi, et al., 2011) research suggesting students who used cognitive processing strategies when doing science work are less likely to cheat.

Regression coefficient analysis indicated that mastery-approach, mastery-avoidance, performance-approach and performance-avoidance goal orientation have no correlation with cheating behavior. This finding is in line with Niiya, et al.’s [23] suggesting that mastery-goal orientation does not predict and not prevent cheating behavior. Mastery-oriented students may not cheat when alone. Students who study harder for exams do not consider exams as somewhat difficult. Then according to Anderman [24] that students mastery-goal have no plan for cheating because it does not lead to authentic learning and self-improvement. Cheating behavior is intended for increasing score or avoiding low grades. Murdock and Anderman stated if educators intend to minimize cheating, they should regulate the learning context that emphasizes on mastery-goal orientation and evaluating learning, but by demanding and complicating the assignment, students will be more focused on final exam rather than learning process and progress [25]. Meanwhile, Performance-approach goal orientation does not affect cheating behavior as also shown in Apostolou’s (2015) and Andrestia’s (2011) [26].

Performance-avoidance goal orientation does not significantly influence cheating behavior. This is also in line with the Apostolou’s (2015) in which that performance-avoidance goal orientation is not a variable that influence cheating behavior.

Demographic variable, i.e. gender, does not significantly influence cheating behavior. The statistic slightly the same. The same pattern is also found in Cahyo and Solicha’s [27], and Yang, et al. [28].

Another demographic variable that do not significantly influence cheating behavior is educational stage. There is no significant difference related to cheating behavior between 10th and 11th graders. It is opposed to Anderman and Midgley’s finding (2004) indicating that cheating increase in in eight grade and in the end of ninth grade.

IV. CONCLUSIONS

The high level of cheating behavior on students indicate unhealthy learning system. Cheating behavior can damage educational assessment, either as an indicator of students’ learning process or honest feedback for the teacher to make future projection. The effect of the behavior is debilitating. Our generation might be inherently corrupt in the future.

This research indicates that all independent cognitive variable namely strategy use, self-regulation, mastery-goal orientation, goal-orientation, performance-approach, performance-avoidance goal orientation, gender, and educational stages have a significant influence on Jakarta 41 States Vocational High School students’ cheating behavior. Meanwhile, correlation of each self-regulated learning variable, namely self-regulation, with cheating behavior are significant. Moreover, variables of self-regulated learning (cognitive strategy use), goal orientation (mastery goal orientation, performance orientation goal orientation, performance avoidance goal orientation), and demographic variables (gender and educational stages) have no significant correlation with cheating behavior. The Influence of independent variables on dependent variable is around ten percent, so that the rest of the contribution can be influenced by other factors.

Suggestion

Cheating behavior is an indication of an unhealthy learning system. If being excused, the behavior may shape students’ characters. When the behavior has been pervasive, students may do not want to do exam with honesty. Moreover, cheating behavior is at the root of corruption. Government and educators, are expected to focus on the policy making related to character strengthening and any policy decision that limit and remove cheating behavior and in the same time instill a culture of honesty to students.

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