



## Predictive Power of University Cumulative Grade Point Average (CGPA) for National Exit Exam

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### Abstract

The purpose of the study was to explain the predictive power of Cumulative Grade Point Average (CGPA) for National Exit Exam results. To this effect, a retrospective research design was employed to investigate the significant relationship between the university CGPA and the National Exit Exam. As a source of data, the study used 1,506 university students to examine the correlation between CGPA and National Exit Exam results of the 2023 academic year at Dilla University. Hence, 77% of students passed the national exit exam, while 23% failed it. After performing a logistic regression analysis, the model showed that success on the exit exam was strongly predicted by university academic accomplishment ( $\chi^2 = 215.012$ ,  $p < 0.001$ ). The odds' ratio showed that the probability of passing the exit exam improved by a factor of 11.470 (95% CI: 7.996-16.453) for every one unit rise in CGPA. Overall, performance on national exit examinations is strongly predicted by university academic achievement. Students with higher CGPAs have a better chance of passing the exam. These results highlight the importance of university academic achievement for national exam success. Therefore, to achieve a high exit exam pass rate, it is advisable for university academic program offices, colleges, and departments to take appropriate supportive measures that assist all graduates of the university in developing adequate mastery of the core competencies articulated in the respective curricula. Furthermore, the National Exit Exam results should be analyzed, examined, and discussed extensively to identify points of strength as well as weaknesses of the students to focus on any areas for improvement and development in the academic programs.

**Keywords:** National exit exam, university academic achievement, logistic regression, success prediction.

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## **1. Introduction**

As part of education reform, the Ethiopian Ministry of Education introduced a standardized national exit exam for Ethiopian universities to verify the academic achievement of the graduates and their readiness for the world of work. The intention was to ensure all graduates from Higher Education Institutions (HEIs) have developed adequate mastery of the core competencies articulated in the respective curricula, thereby satisfying the requirements of the labor market and employability (Ayenew&Gebreyohannes, 2022). Furthermore, the exam is used to predict whether the graduates received quality education at their respective Ethiopian universities or not.

However, the gap in the body of knowledge regarding the predictive value of CGPA in relation to the results of national exit exams is a research issue in Ethiopia. Thus, this study attempted to fill this gap. Although it is commonly acknowledged that academic success is a key component of exam success, little research has been done, to the level of our knowledge, to show the relationship between CGPA and national exit exam performance. This study is, as far as we know, the first of its kind to investigate this relationship in the Ethiopian context. This is especially pertinent where graduates are required to pass the national exit exam, regardless of the college GPA they have. Understanding this connection can help explain the aspects that influence students' exam achievement and guide educational interventions to help students study and prepare for national exit exams.

Hence, it is an important tool in assessing students' knowledge, abilities, and competencies in higher education institutions. For university students in many academic and professional sectors, passing a national exit exam is an important milestone. The results of this exam demonstrate mastery of key concepts from a program of study and preparedness for a career (Shaffer & McCabe, 2013). Graduates must pass these exams before they can start working as professionals in their fields (Al-Rawahi& Al-Aamri, 2020; Edwards et al., 2008). Consequently, the focus of several studies is on investigating associated factors that predict students' success in exit exams to assist them in performing well in such exams.

Grades in specific courses are the main academic factors that have become the most reliable indicator of success in the exit exam. Additionally, the cumulative CGPA is also used to measure the overall academic success achieved across various courses. Therefore, CGPA can be

regarded as a potential predictor that could attract the attention of researchers. Sarah et al. (2020) postulated that the predictive power of CGPA is strong and instrumental in confirming the success of students in higher education. Thus, based on this prediction, it would be possible to determine the demographic characteristics of the students and design appropriate educational interventions.

Therefore, the current study intended to investigate the predictive value of CGPA in forecasting students' achievement on national exit exams using one of Ethiopia's higher education institutions' academic data. The findings of the study can be helpful in detecting students who require further care and those who are at risk. The findings will increase our knowledge of how to anticipate students' success in national exit exams of this nature by considering academic standards. Additionally, the research intended to develop a trustworthy prediction model that can forecast students' passing national exit exams based on their CGPA. The inquiry was guided by the following research questions:

- i. What connection does exist between students' academic achievement (Cumulative Grade Point Average [CGPA]) and national exit exam result?
- ii. Does CGPA predict students' performance on national exit exam?

## **2. Review of Literature**

### **2.1 Students' Academic Achievement and National Exit Exam Success**

Literature indicates that academic achievement is one of the most important results of the formal education process. For instance, Park and Robinson (2021) stated that a student's academic achievement is the extent to which the student has accomplished short- or long-term educational goals. It addresses educational outcomes that demonstrate how clearly a student has attained the specified learning objectives, which serve as the foundational areas for learning activities in educational institutions. Suleiman et al. (2024) explained that it is a multilayered result affected by several factors spanning educational, socioeconomic, and individual characteristics. Therefore, the academic attainment of students is important for both students and educational institutions, as it reflects the quality that can be observed according to the progress shown by the students over the years (Oyewobi et al., 2020). Recognizing the main predictors of students' educational achievement plays a significant role in providing clear direction to educators, policymakers, and institutions to improve students' performance and facilitate targeted interventions (Suleiman et al., 2024). Furthermore, the educational success of students is linked to the continuous efforts

made that significantly contribute to overall development, since the effort is also associated with complete dimension of the student's abilities, knowledge, and skills (Ede &Igbokwe, 2018).

## **2.2 Exit Exam**

One expected means to improve academic achievement and the nature of training is the introduction of an exit exam. For instance, Holme et al. (2010) stated that an exit exam could impact academic performance by confirming or “flagging” that graduates have acquired the required skills, giving them an advantage in both employment and earnings over students without such certificate. The exit exam poses a potential threat to most educational systems around the world. It plays a significant role in numerous countries, providing the basis for ensuring students have completed a conventional study within an educational system. It is especially important in countries with limited job opportunities and high unemployment (Kellaghan&Greaney, 2019). In addition to serving its conventional functions of validation and selection, the development of human capital (cognitive skills)and the improvements resulting from the exit exam could potentially significantly enhance develop the long-term economic growth of a nation (Hanushek&Woessmann, 2010).

Various research projects have investigated the association between university academic performance and national exit exam outcomes. Cumulative nursing GPA has been a significant positive predictor of passing rates on the National Council Licensure Examination for Registered Nurses in numerous studies (Grossbach&Kuncel, 2011; Shaffer & McCabe, 2013; Silvestri et al., 2013). Similar findings were reported across other fields. Law students’ GPA positively predicted bar exam results even after controlling for Law School Admission Test (LAST) scores (Thomas, 2003). Grades in capstone law courses were particularly predictive of bar passage rates (Shultz &Zedeck, 2011). For teacher certification, grades in content methods courses strongly predicted Praxis exam outcomes (Al-Rawahi& Al-Aamri, 2020).

## **2.3 The Ethiopian National Exit Exam**

Exit exams in Ethiopian universities were first introduced for law graduates in the 2010-11 academic year, and for health science graduates in 2015. The Ministry of Education then expanded the exit exam to all undergraduate university programs starting in the 2023 academic year. The Ethiopian Ministry of Education introduced the application of a national exit exam for all final-year undergraduate program students (public and private higher institutions), beginning

in the 2023 academic year, to enhance the quality of graduates. The purpose of the exit exam is to provide a means of demonstrating whether students have acquired the essential knowledge, skills, and attitudes or not. The implementation of the exam necessitates defining competency areas for a specific program, which has previously been accomplished.

The concern about the quality of education in Ethiopia has been an issue at all levels of the education system. Therefore, university graduates are required to show minimum competencies that relevant stakeholders would like to know. Additionally, the employment of exit exams is related to the regulation and advancement of the quality of higher education. The feedback from the results of the national exit exam is instrumental for institutional improvement. A University's exit exam is a standardized, comprehensive, and curriculum-oriented assessment constructed to measure whether students have achieved the minimum learning competencies specified in the graduates' profile (Hagos et al., 2019).

During the past one and a half decades, the expansion of Ethiopian higher education institutions has been observed alongside the harmonization of undergraduate educational programs, presentation of modular instructional approaches, continuous assessment, peer learning, and the foundation and activity of quality assurance systems to upgrade and guarantee the nature of higher education (MOE, 2013). However, there is also a claim that the expansion of higher education jeopardized the quality of education. Diminished quality of education and training is evident across the higher education system in Ethiopia. The decline in education is more noteworthy among private organizations and continuing and distance training programs (Higher Education Strategic Center [HESC], 2015). The Higher Education Proclamation Proc. No.1152/2019 states that "... the teaching-learning process will be continuously updated in its design, delivery methods, and instruments of assessment." Considering this, higher education institutions in Ethiopia have undertaken various measures to improve the quality and relevance of higher education to the labor market and the country's development, including the introduction of criterion-referenced and continuous appraisals (MOE, 2013). One method for further developing students' learning in a manner that equips them with the key competencies to the labor market and economic development is the introduction of national exit exams all throughout higher education institutions (MOE, 2013, in Ayenew&Gebreyohannes, 2022).

## **2.4. Theoretical Framework**

The study was guided by the Outcome-Based Education (hereafter OBE) framework, which advises teaching students what they need to know and how to apply that knowledge to improve their lives and contribute more effectively to society (Morke, Dornan,&Eika, 2013). It was developed by William G. Spady, who introduced the concept in the late 1980s and 1990s (O'Donoghue, 2017). Additionally, Spady (1994) explored that OBE means clearly focusing and organizing everything in an educational system around what is essential for all students to be able to do successfully at the end of their learning experience.

The definition explicitly specifies certain markers, which should serve as bases for actions and procedures that educational institutions essentially assume to ensure the proper institution-wide implementation of OBE. Spady (1994) explained OBE as a comprehensive approach to organizing education around what students should be able to demonstrate successfully at the end of their learning experiences (Fraser, Tobin, &McRobbie, 2011). This primarily entails the identification of what is important for the learners to be able to do so that the curriculum, instruction, and assessment are organized accordingly (Fraser et al., 2011).

Hence, the OBE is a student-centered teaching and learning method that emphasizes achieving specific measurable outcomes (Jonathan, 2017). These outcomes are defined in terms of knowledge, skills, and attitudes that meet the socioeconomic demands of the modern world. Furthermore, Tucker (2004) emphasized this in his description of the OBE as a process that should involve the restructuring of curriculum, assessment, and reporting practices in education.

Considering the fundamental principle of OBE, several Learning Outcomes (LOs) were identified, referred to as Exit Outcomes (EOs), that students must successfully achieve throughout the program (Doran, 1981). To effectively plan and attain these goals, the EOs will be grounded in the five key components of the S.M.A.R.T. framework: Specific, Measurable, Achievable, Relevant, and Time-bound. By achieving these EOs, students will receive an education that encompasses not only knowledge but also skills and behavioral learning, thereby enhancing their lives and enabling them to contribute more effectively to society (Doran, 1981).

Therefore, OBE theory informed the current study by outlining the SMART Exit Outcomes (EO) that students are expected to be acquainted with. According to Spady (1994), the most important

form of outcomes with which other forms or levels of outcomes should be aligned are those that reflect real-life roles that learners will perform the moment they exit the education system. These are called Exit Outcomes, Program Level Outcomes, and Course Level Outcomes.

Exit outcomes (National Exit Outcomes) are culminating outcomes that comprise what we want our students to be able to do successfully at the end of their learning journey at university. These outcomes should be based on life roles that students will perform in the real world (Spady, 1994). They should be followed by some enabling outcomes called Program Level Outcomes. These the second-level outcomes involve the specific knowledge, skills, and competencies graduates are expected to demonstrate upon completion of a degree, often focusing on discipline-specific expertise, critical thinking, communication, and ethical decision-making. They are measurable, action-oriented statements, such as “analyze,” “design,” or “evaluate.” They are measured in terms of specific Course Level Outcomes (CLOs) (Learning Tasks). CLOs are measurable, specific statements detailing the knowledge, skills, and attitudes undergraduates should master by a course’s end. They typically focus on higher-order cognitive skills (analyzing, creating, etc.), practical applications, and professional development. Effective CLOs are learner-centered, clear, and aligned with broader program goals. Therefore, the interplay between the three levels of outcomes across the curriculum is systematically and intentionally aligned and connected. Based on this line of frame work universities are expected to create strong links among these outcomes to determine the final exit outcome of their undergraduate students.

### **3. Research Methods**

The study used archival data to determine if CGPA predicts pass rates on exit exams in the domain of undergraduate programs. Hence, based on CGPA, this study sought to understand and forecast students’ performance in the national exit exam. According to academic success characteristics, researchers have utilized quantitative approaches, specifically binary logistic regression, to estimate the likelihood that students would pass or fail their exit examinations (Grossbach&Kuncel, 2011; Uyehara et al., 2007). Binary logistic regression enables the predication of a binary outcome from numerous academic criteria, such as whether a student will pass or fail an exam. As a result, educational research is increasingly focusing on how well students will perform in national exams.

### **3.1 Study Area and Period**

The study was conducted at Dilla University in the academic year of 2023. Final-year undergraduate students from various colleges and institutions within Dilla University took the exam to secure their graduation.

### **3.2 Research Design**

The study used a retrospective research design. A retrospective study is a type of research design that looks back in time to analyze data that has already been collected. Unlike prospective studies, which follow participants forward in time, a retrospective study relies on existing data from records, databases, or surveys. Jansen et al. (2005) stated that retrospective research often necessitates the analysis of data that were originally collected for reasons other than research. Hendrix and Griessenauer (2019) also explained that the design is an efficient and quick method of research and is particularly useful when studying a rare outcome for which a prospective study is not feasible or when conducting a prospective study is prohibitively expensive and time-consuming.

Therefore, the primary purpose of using a retrospective research design in the current study was to investigate the relationship between variables and outcomes in retrospectively stored data. In other words, the study employed a retrospective research design under quantitative research methodology to predict the performance of undergraduate students on a national exit exam based on their university-level academic success, which is called CGPA. Hence, the study used the CGPA and national exit results of Dilla University students who attended various colleges and departments as recorded data.

### **3.3 Population**

Final-year undergraduate students from several colleges and schools within Dilla University comprised the population for this study. Students from the Institute of Education and Behavioral Sciences, College of Law, College of Natural and Computational Sciences, College of Agricultural and Natural Resources, College of Business and Economics, College of Social and Humanities, and College of Engineering and Technology were specifically included in the study. In the 2023 academic year, these students participated in the national exit exam.

### **3.4 Samples and Sampling Technique**

Therefore, by employing a comprehensive sampling technique, the study used the CGPA and existing exam results of all the students from the previously mentioned colleges and respective departments. All undergraduate students at Dilla University who completed the national exit exam in 2023 were included in the analysis. The Dilla University registrar's office was contacted to obtain the participants' CGPA and exit exam results. Data from 1,506 undergraduate students were obtained in total, providing a complete picture of the population.

### **3.5 Variables of the Study**

The study formulated independent and dependent variables. Specifically, the study used the CGPA of the students as independent variable, whereas the students' "pass" or "fail" status on the exit exam served as the dependent variable. Students who failed the exam were coded as 0, while those who passed the exam were classified as 1. This encoding allowed the study to perform logistic regression analysis on the data.

### **3.6 Data Analysis**

The study conducted a binary logistic regression analysis. This statistical method is used for binary classification to predict the probability of a categorical dependent variable (e.g., yes/no) based on one or more independent variables (Tolles&Meurer, 2016). Therefore, the current study used it to predict the likelihood of success on the Ethiopian universities' exit exam. To find a statistically significant result between variables, a  $p < 0.05$  value was established. The data analysis was accomplished with the help of SPSS 27 software.

## **4. Results**

To present a concise summary of academic achievements and the outcomes of the national exit exam, descriptive statistics were used. Conversely, binary logistic regression was employed to investigate the connection between academic success at university and the results of the national exit exam.

### **4.1 Descriptive Statistics**

A total of 1,506 student records from Dilla University, final-year undergraduate students who took the national exam in 2023, were included in the analysis. Table 1 presents the descriptive statistics of graduates' CGPA and exit exam scores.

Table 1: Descriptive statistics for CGPA and Exit exam results

| <b>Statistics</b> | <b>CGPA</b> | <b>Exit Score</b> |
|-------------------|-------------|-------------------|
| Mean              | 3.06        | 58.50             |
| Mode              | 2.96        | 60                |
| Std. Deviation    | 0.40        | 11.648            |
| Minimum           | 2.05        | 19                |
| Maximum           | 3.95        | 96                |
| N                 | 1506        | 1506              |

As Table 1 demonstrates, the study comprised the CGPA and exit exam results of 1,506 Dilla University students. The study found a mean CGPA of 3.06, which refers to an average overall success. Nevertheless, the students scored a mean 58.50 on their exit exam. This shows that the students' performance on the exit exam was moderately good. Moreover, the descriptive statistics show the mode for CGPA of the graduates is 2.96, which is the most frequently scored result among many students. Concerning the exit exam, 60 was the mode, which was scored most frequently. To put it differently, most university students scored a CGPA of 2.96 and 60 on the exit exam results more frequently respectively. The study also shows that 0.40 was the standard deviation for the CGPA, indicating a comparatively low dispersion of the mean. Nevertheless, the study found that the standard deviation for the exit exam was 11.648. This shows a broader range of scores and greater variability in success.

Table 2: National Exit Exam Scores

| <b>Statistics</b>  | <b>N</b> | <b>%</b> |
|--------------------|----------|----------|
| Fail               | 347      | 23.00%   |
| Pass               | 1159     | 77.00%   |
| Std. Deviation     | 0.40     | 11.648   |
| Overall Percentage |          | 77.0     |

Table 2 illustrates that many graduates, 1,159 (77%), were successful on the exit exam, whereas only 347 (23%) graduates failed. From the findings, it is possible to confirm that most graduates were successful on the national exit exam. The results from descriptive analysis indicate that the graduates achieved a moderately high CGPA, with a relatively low standard deviation (0.4). In contrast, the score on the exit exam has exhibited greater variability, with a wider range of scores (11.648). However, the findings show that most of the graduates passed the exit exam. Hence, it is possible to state that the logistic regression model appropriately predicted 0 out of 347 cases of

failure and 1,159 out of 1,159 cases of success, resulting in an overall percentage of accurate predictions of 77.0%.

### 4.2 Binary Logistic Regression

Table 3. Variables in the Equation

|        |          | B     | S.E.  | Wald    | Df | Sig.  | Exp(B) |
|--------|----------|-------|-------|---------|----|-------|--------|
| Step 0 | Constant | 1.206 | 0.061 | 388.395 | 1  | 0.000 | 3.340  |

Table 3, Variables in the Equation, displays the logistic regression coefficients. In this case, only the constant term is included in the model, with a coefficient of 1.206. The significance level (Sig.) indicates that this constant term significantly contributes to the prediction.

Table 4. Variables not in the Equation

|        |                    | Score | df      | Sig. |       |
|--------|--------------------|-------|---------|------|-------|
| Step 0 | Variables          | CGPA  | 203.426 | 1    | 0.000 |
|        | Overall Statistics |       | 203.426 | 1    | 0.000 |

Table 4, Variables Not in the Equation, shows the statistical significance of the variables that were not included in the logistic regression model. In this analysis, the CGPA variable had a significant effect on predicting the success in the exit exam, as indicated by the high Wald chi-square value of 203.426.

Table 5. Omnibus Exams of Model Coefficients

|        |       | Chi-square | Df | Sig.  |
|--------|-------|------------|----|-------|
| Step 1 | Step  | 215.012    | 1  | 0.000 |
|        | Block | 215.012    | 1  | 0.000 |
|        | Model | 215.012    | 1  | 0.000 |

Table 5, Omnibus Exams of Model Coefficients, presents the chi-square exam results for the overall model. The chi-square value of 215.012 with 1 degree of freedom indicates that the model is statistically significant in predicting the outcome. In other words, there is a less than a 0.1% probability that the relationship observed between CGPA and exam success happened by random chance. The model reveals a strong positive relationship between the data points. Specifically, for

every one-unit rise in a student's CGPA, the odds (probability) of passing the exit exam increase by a factor of 11.47.

Table 6. Hosmer-LemeshowExam

| Step | Chi-square | Df | Sig  |
|------|------------|----|------|
| 1    | 13.179     | 8  | .106 |

Table 6 shows the Hosmer-Lemeshow exam of the model fit. The Hosmer-Lemeshow goodness-of-fit statistic is useful in assessing the quality of a model's fit (Lemeshow & Hosmer, 1982). It is calculated by grouping the predicted probabilities into deciles and then examining the difference between the observed and expected frequencies of the outcome (Shah & Barnwell, 2003). As the table shows, the Hosmer-Lemeshow goodness-of-fit test result was 0.106 (typically referring to a p-value). This indicates that the logistic regression model used has an adequate fit for the data.

In the Hosmer-Lemeshow test, the null hypothesis is that the model fits the data well. Therefore, a high p-value is desired. Because  $0.106 > 0.05$  (the common significance level), the study failed to reject the null hypothesis (Hosmer, Lemeshow, & Sturdivant, 2013). Based on this line of reasoning, it is possible to infer that there is no significant difference between the observed and predicted event rates. The model is considered well-calibrated and fits the data adequately. In other words, the model's mathematical assumptions are highly accurate when compared to what actually happened to the students. This demonstrates that the model adequately fits the data, meaning CGPA is a reliable tool for forecasting exit exam outcomes.

Table 7. Model Summary

| -2 Log likelihoods    | Cox & Snell R Square | Nagelkerke R Square |
|-----------------------|----------------------|---------------------|
| 1410.785 <sup>a</sup> | 0.133                | 0.202               |

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Table 7, Model Summary, provides information about the goodness-of-fit measures for the logistic regression model. The -2 Loglikelihood value of 1410.785 suggests that the model captures 20.2% of the variance in the dependent variable, as indicated by the Nagelkerke R Square.

Table 8. Classification Table

| Observed           |      | Predicted |      |                    |      |
|--------------------|------|-----------|------|--------------------|------|
|                    |      | Exit      |      | Percentage Correct |      |
| Step 1             | Exit | Fail      | Pass |                    |      |
|                    |      | Fail      | 69   | 278                | 19.9 |
|                    |      | Pass      | 53   | 1106               | 95.4 |
| Overall Percentage |      |           |      |                    | 78.0 |

a. The cut value is .500

Table 8, the Classification Table, displays the observed and predicted values after including the CGPA variable in the model. The logistic regression model now correctly predicts 69 out of 347 cases of failure and 1,106 out of 1,159 cases of success, resulting in an improved overall percentage of correct predictions at 78.0%. The model accurately predicts 78% of overall outcomes, demonstrating it is highly effective at identifying successful students (95.4%) but less efficient at detecting those likely to fail (19.9%).

Table 9. Variables in the Equation

|                     |          | B      | S.E.  | Wald    | df | Sig.  | Exp(B) | 95% C.I. for EXP(B) |        |
|---------------------|----------|--------|-------|---------|----|-------|--------|---------------------|--------|
|                     |          |        |       |         |    |       |        | Lower               | Upper  |
| Step 1 <sup>a</sup> | CGPA     | 2.440  | 0.184 | 175.662 | 1  | 0.000 | 11.470 | 7.996               | 16.453 |
|                     | Constant | -6.009 | 0.533 | 127.109 | 1  | 0.000 | 0.002  |                     |        |

a. Variable(s) entered on step 1: CGPA.

Finally, Table 9, Variables in the Equation, shows the logistic regression coefficients after including the CGPA variable. Hence, the coefficient (beta value) of the CGPA variable was 2.44, which indicates an increase in CGPA has a significant impact on the odds of passing the exit exam. Therefore, an odds' ratio (Exp (B)) of 11.470 is the most critical finding in Table 9. It means that for every one-unit increase in a student's CGPA, the probability (odds) of passing the national exit exam increases by a factor of 11.47. In practical terms, a student with a 3.5 CGPA is 11.47 times more likely to pass than a student with a 2.5 CGPA, assuming all other factors remain constant. According to the 95% confidence interval, the odds' ratio ranges from 7.996 to 16.456, representing a strong positive relationship between CGPA and success on the national exit exam. The negative constant reflects that the baseline for passing the exam is very low, and it is the positive influence of CGPA that significantly drives a student's probability into the pass category.

Therefore, based on the logistic regression analysis, it is possible to infer that CGPA is a significant predictor of success on the national exit exam. Graduates with higher CGPA scores have meaningfully higher odds of achieving a passing result on the national exit exam.

## **5. Discussion**

The purpose of this study was to investigate the predictive power of CGPA on the attainment of the national exit exam. The findings revealed that CGPA significantly predicts pass rates on national exit exam. This is consistent with other research findings, which revealed that there is consistent prediction of academic factors in predicting high-stakes licensing and certification exam outcomes across various fields (Al-Rawahi& Al-Aamri, 2020; Grossbach&Kuncel, 2011; Shaffer & McCabe, 2013). Therefore, using exit exams is instrumental in measuring curriculum mastery and professional competence attained through coursework at higher institutions (Woessmann, 2018).

Conversely, the imperfect model prediction suggests that exit exams capture discrete competencies beyond academic grades, such as demographics, enthusiasm, self-efficacy, resilience, exam-taking skills, and institutional factors (Holme et al., 2010; Romeo, 2013; Tadese et al., 2018). To clarify, the imperfect model prediction implies that while CGPA is a strong indicator, it only explains 20.2% of the variance in exit exam results. The remaining 79.8% of success is determined by factors beyond academic grades, which may include a student's self-efficacy, resilience, and exam taking-skills, as well as external institutional factors.

The study pinpointed that a discrepancy existed because the model accounted for only 20.2% of the variance, leaving nearly 80% of exit exam success to be influenced by factors other than CGPA. Hence, the discrepancy between CGPA and success on the national exit exam highlights the restrictions of relying solely on CGPA for credentialing decisions, underscoring the value of standardized assessments (Kuh et al., 2006). Though Wambuguh et al. (2016) contend that cognitive and non-cognitive attributes beyond course grades contribute to success on the exit exam. As a result, the logistic regression model in the current study found a significant amount of variance in exit exam results based on CGPA alone.

This warns credentialing policies not to be based solely on cognitive metrics like CGPA but rather to consider non-cognitive attributes. This is consistent with the argument of Ayenew and Gebreyohannes (2022), who argue that exit exams benchmark practical abilities, while grades

reflect theoretical knowledge. Hence, there should be a balance between academic excellence and social, emotional, and ethical development in higher education curricula that foster holistic professional readiness (Hanushek&Woessmann, 2010).

The assessment was conducted by comparing the standard deviations of the two variables, which proved that academic achievement (CGPA) is more uniform than performance on the national exit exam. In other words, the variability revealed in examination scores across university courses, despite students possessing above-average CGPAs, portrays the unevenness in student preparation. This accentuates the inevitability of academic interventions and exam readiness support to bridge performance gaps (Edwards et al., 2008; Sánchez-Cardona et al., 2021). The finding is consistent with the evidence of quality declining in some Ethiopian universities (HESC, 2015).

Basically, the findings of this study offer an empirical basis for employing national exit exams to confirm quality, accountability, and identification of at-risk students, as intended by national policies (Ayenew&Gebreyohannes, 2022; Ministry of Education [MoE], 2013). Nevertheless, to fully achieve the benefits of work force readiness, it is necessary to engage employers in aligning their hiring protocols with the national exit exams (Dryjanska et al., 2022; Kellaghan&Greaney, 2019).

Overall, the study underscores the significance of academic accomplishment as an essential component of success on the national exit exam for final-year undergraduate students, despite the multifaceted nature of exit exam outcomes. The study may have policy implications by optimizing exam usefulness through ongoing coordination between the government, higher education institutions, and industry, coupled with research on incorporating additional institutional and non-cognitive predictors.

## **6. Conclusion**

The objective of the study was to explain the predictive power of CGPA for the national exit exam results. Accordingly, the study established sufficient grounds to conclude that the success of university graduates on the national exit exam can be significantly predicted by their CGPA. The findings of the study revealed that a university CGPA has a higher probability of predicting the national exit exams cores. This finding highlights the fact that it is imperative for university students to have a good CGPA since it has the power to predict passing and failing opportunities

in the Ethiopian universities' exit exam. Hence, the findings will be instrumental in providing insightful information to the Ministry of Education, policymakers and educational institutions to realize the preconditions that should be effectively addressed to succeed in the national exit exam. By recognizing the role of a good CGPA in the exit exam, it is advisable to design and implement an appropriate and effective strategic plan to prepare their graduates ready for the national exit exam. Moreover, the National Exit Exam results should be analyzed, examined, and discussed extensively to identify points of strengths as well as weaknesses of the students, focusing on any areas for improvement and development in the academic programs.

Future researchers are suggested to consider other additional factors that determine success in the national exit exam, including learning styles, examination tactics, learners' motive, and other variables that are unique to each academic institution. A more comprehensive recognition of these factors could provide valuable insights for educational practitioners and policymakers to formulate appropriate interventions and support mechanisms that elevate the academic success of students.

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