DEMOGRAPHIC FACTORS INFLUENCING GRADUATE PROGRAMME COMPLETION AT THE UNIVERSITY OF BOTSWANA

Dorcas B. Molefe*
Molepolole College of Education
dorcasmolefe@yahoo.com

Gabatshwane T. Tsayang
University of Botswana, Department of Primary Education
gabatsayang649@gmail.com

Jimoh Shehu
University of Botswana, Department of Sports Science
shehu@ub.ac.bw

Abstract
Higher education institutions worldwide face the challenge of reversing the downward trend in programme completion and graduation rates. This paper explores students' perception of influences on timely and delayed graduate programme completion in the Botswana context. This correlational research involved a sample of 155 participants drawn from the 2014 and 2015 cohorts of graduate students at the University of Botswana. Participants completed a questionnaire requesting sociodemographic information and data on facilitators and barriers related to timely and delayed degree programme completion. Logistic regression was used for data analysis. The statistically significant predictor variables were age group, study mode, sponsorship, and students' attributes. The results point to a number of policy and practical interventions for boosting graduate students' success and completion rates.

Key words: Graduate programme, timely and delayed completion, demographic factors

1.0 Introduction

The twin issues of graduate output efficiency and return on higher education investment have become salient topics of debate and research globally (Twebaze, 2023; Wilson & Pool, 2024). Consequently, higher education institutions need empirical data across various education systems to gain valuable insights and potential lessons for boosting institutional effectiveness and student outcomes. The need to initiate data-driven reform has become especially crucial in an era of accountability, shifting funding formula, changing demographics, and growing competition in the higher education marketplace. Literature on the risk factors for higher degree completion have identified a variety of variables, which may be broadly classified as demographic and institutional (Cassim, 2010, 2011; Green & Bowden, 2012; Zahid, 2021; Breitenbach, 2023. These variables

include students' social obligations, non-conducive environment, underdeveloped supervisory 'regimes', lack of prerequisite skills, insufficient or inconvenient study time due to nature of work, wrong choice of programme and/or institution and motivational factors (Moses, 1985; Nettles & Millett, 2006; Gardner & Holley, 2011; Musiige & Maassen, 2015; Wangene-Ouma et al., 2015; Davis et al., 2017). About four decades ago, Moses (1985, p. 2) reported that "many full-time research students funded by the Research Councils failed to graduate in the expected and funded time period" in both Australia and Britain. The problem of non-completion within the stipulated and funded time was more notable with full-time students as "part-time students take only 25 per cent longer than full-time students ….. research master's students may take as long as PhD students" (Moses, 1985, p. 3). The factors attributed to the low and delayed completion were inexperienced supervisors for post-graduate level, insufficient financial support for students compelling them to find jobs which reduced their study time, and stress resulting from inability to find income diverting their attention from studies (Moses, 1985). Subsequent studies have revealed other categories of factors. For instance, Nettles and Millett (2006) explored experiences and factors influencing completion of doctoral-level work study among over nine thousand doctoral students in twenty-one universities across different faculties in the USA. Key findings were race-ethnicity, financial needs, and part-time status. Taylor et al., (2019) identified supervision as the primary factor in delayed or timely graduation. Findings from their study included the themes of "communication and feedback," "relationships," "structure and resource utilization," "mentoring," "advisor commitment" and "high expectations" (p. 861). They also found that the "most helpful qualities of doctoral advisors from candidate and recent graduates' perspectives are communication skills, understands the doctoral process in the particular context, and develops the candidates as a researcher by providing feedback on progress and direction of their research" (p. 861). Stevens & Caskey (2023) found that doctoral students indicated that their success was attributed to having a community of practice (seminars with peer feedback).

In Italy, Geven et al. (2018) conducted an evaluation of two reforms aimed at increasing PhD completion rates at European University Institute. The administrators' interviews revealed that the institutional culture was informal, with the study-programme being heavily reliant on the efforts of individual students and supervisors (Geven et al., 2018). The first reform aimed at reducing attrition to 30 per cent by the year 2000 for the 1989-1990 cohort. The changes included equipping students with requisite knowledge, weekly seminars where supervisors taught methodological and theoretical training in their respective fields in Fall and Winter, departmental workshops in Summer, and giving students more structure and deadlines including the threat of expulsion from the institute failing submission of thesis within 7 years from start of programme. The findings after the first reform revealed that timely completion improved by 10 per cent to 15 per cent. They noted that "many students were unable to finish their manuscripts within the 3 years during which they received financial aid" (p. 533). A second reform was increasing financial aid to four years for the 2000-2001 cohort with the condition that the completion time would be five years, and not the seven-year-period for the 1989-1990 cohort. The results were increased

completion rates by 9-20 percentage points. Spronken-Smith et al. (2018) conducted a case study of the University of Otago where PhD theses are required "in 3 years, but candidates can have a maximum of 8 calendar years" (p. 96). The study's data sets included 2250 PhD candidates from 2000-2012. The statistically significant variables from regression analysis were "funding regime," "enrolment status", "citizenship" and "academic field" (p. 104). Results show that candidates on University of Otago scholarship "generally submitted [their theses] at a rate 15 per cent higher than those without a scholarship (p. 102); part-time enrolment is negatively associated with delayed completion, submission and stipulated candidacy duration; international candidates reportedly submitted at a higher rate than domestic candidates; and findings reveal "better submission or completion percentages for PhD candidates in the sciences and natural sciences compared to those in arts and humanities" (p. 104).

Gardner and Holley (2011) interviewed 20 first-generation doctoral students across disciplines in two institutions in the USA. These students were considered at-risk of failure to complete their doctoral education because of being female of colour (African American, Latino and Native American), had attended a community college, and reported more debt at the end of their studies. Emerging themes about the experiences of the doctoral students were being resilient and making sacrifices to "breaking the chain" from educational and social challenges they faced, and it was noted that they "rely heavily upon self-motivation, self-efficacy, and an internalized locus of control to persist" (Gardner & Holley, 2011, p. 78). Relatedly, an online survey of 196 social work doctoral graduates conducted by Davis et al. (2017) involved participants recruited from the ProQuest Dissertation and Theses database of a ten-year period. An open-ended question in the survey was "Based on your experience, what type of advice would you give someone, or have you given someone, about carrying out dissertation research effectively and efficiently" (p. 112)? Thematic analysis of the participants' advice revealed "sources of support, managing a project of this scope, considerations in study design, and effective research attitudes and behaviors" (p. 107).

Bailey, Cloete & Pillay (*n.d.*) used proxies to estimate Botswana's graduate output efficiency, "by dividing the graduate data for each year … by the corresponding enrolment data for that same year" (p. 7). It reported that "Botswana's average ratios suggest that efficiency levels dropped in all qualification types" (p. 7) and particularly ratios for master's degrees averaged 21 per cent from 2000/01 to 2009/10 (CHET, *n.d.*). The focus of the study was on completion rates. In Uganda, low PhD graduation rates and delayed completion has been attributed to students' financial constraints which forced them into work whilst enrolled. Findings also revealed that personal interest and activeness in research was motivated by promotion or money; and there was delayed supervision feedback "and inconsistent follow-up" attributed to "lack of incentives towards supervision" (p. 120). Wangene-Ouma et al. (2015) explored the role of incentives in research and research post-graduate student output at the University of Cape Town (South Africa), Makerere University (Uganda), University of Nairobi (Kenya) and Eduardo Mondlane

(Mozambique). The findings for the University of Nairobi indicate that incentives for research and/or graduate student supervision are in the form of promotions. However, in Mozambique teaching offers a better pay than a research career. Therefore, the research career is less popular than the teaching one, as evidenced by "out of about 1 700 academic staff, fewer than 100 have taken the research career track" (Wangene-Ouma et al., p. 136). The researchers found "no correlation between the remuneration of Mozambican academics and research productivity" (p. 142-143). In South Africa, findings revealed that the primary barriers to improving PhD programmes in higher education institutions were financial constraints, the quality of incoming students, blockages in the graduate and post-graduate pipeline; limited supervisory capacity, and certain government rules and procedures (Academy of Science of South Africa, 2010).

From its inception in 1982 the University of Botswana's primary focus was on offering undergraduate programmes. Its School of Graduate Studies was only established in 1996 (School of Graduate Studies, 2015/2016). The institution's strategic goal is to become 'a research-intensive university' (University of Botswana, 2008). However, it does not have a system to analyse graduation rates (Botswana National Assembly, 2013a, b) hence it uses proxies (Bailey et al., *n.d.*; Tertiary Education Council, 2013). To become a research-intensive, the University of Botswana needs to consider its graduate student output and use research data to improve the effectiveness and efficiency of its graduate degree programmes. Considering that delayed graduation matters for human capital development, government sponsorship and institutional competitiveness, student retention and return on higher education investment. This study explores the demographic factors that influenced graduate programme completion among the 2014 and 2015 cohorts of the University of Botswana. The study specifically sought to answer the following research questions: What are the demographic factors that influenced graduate programme completion among the University of Botswana's 2014 and 2015 cohorts?

2.0 Methods

2.1 Research design: Quantitative

The method used for the research study was a quantitative method. This research approach uses statistical packages to analyse variable which have significance on completion time. Data from the respondents' questionnaire was entered in the SPSS, coded, cleaned for logistic regression analysis, as it is applicable for use on studies predicting completion time. Other statistics run were Pearson's Chi-square test of goodness-of-fit and Multivariate Analysis of Variance (MANOVA) tests to explore whether or not there are statistically significant differences between timely and delayed completers with regard to certain responses. The quantitative approach was used with survey questionnaire data analysis of the graduate completers' data.

2.2 Case Study

The research study employed a case study design of an institution and individuals, namely, UB, and timely and delayed completers of graduate programmes. A case study was adopted

because the research was interested in establishing an understanding of factors that impede timely completion of graduate programmes and the corrective measures that could improve the situation in a particular identified institution. The case in the study is that completion time of graduate level education is problematic. It is the case of the University of Botswana, the institution in the country with the longest history of graduate education. UB is a key player in the provision of tertiary education a historic one on which the other tertiary education providers are all benchmarking.

2.3 Population and sampling

Population

One hundred and fifty-five (155) of the University of Botswana's 2014 and 2015 cohorts of graduate programme completers were used in the study. These participants were a) Masters, MPhil and PhD 2014 and 2015 graduates who may be timely or delayed completers of graduate programmes (2014 and 2015 graduates) at UB.

Sampling

For the survey questionnaire, the study used stratified random sampling of graduates. First, a sampling frame was obtained comprising of a list of all the 155 graduates of UB in 2014 and 2015 as reflected on the Graduation Ceremony programmes (University of Botswana, 2014, 2015). The population was first divided into strata of Masters, MPhil, and PhDs. Secondly, the simple random sampling was used as each participant stood an equal chance of being selected. Thirdly, a random number table was used to select participants because in the table of digits 0 to 9, each digit had an equal chance of being selected (Bless et al., 2013).

2.4 Data collection strategies and instruments

The quantitative methodology of this study lends itself to the review of documents such as records of enrolments, progression and completion of the programmes. This quantitative methodology was responding to the research question on: "What are the demographic factors influencing graduate programme completion among the 2014 and 2015 graduates of the University of Botswana?" The responses were drawn from the survey questionnaire for graduate completers at UB for the 2014 and 2015 graduates. Furthermore, a survey questionnaire was used for additional variables for statistical analysis. The positivist paradigm was used, as it lends itself to the use of numeric descriptions, captured through instruments such as survey questionnaires (Creswell, 2009)., the research attempted to understand from the perspectives of the participants the demographic factors affecting completion of the graduate students in UB.

Survey questionnaires

The survey questionnaire enabled the researcher to get the perspectives of many research participants and therefore allowed for numeric descriptions of a broader sample of the research population (Creswell, 2009). A self/researcher constructed questionnaire was mailed (Wiersma &

Jurs, 2009, p. 201) and some were hand-delivered to participants who studied at UB and graduated in 2014 and 2015. The questionnaire's item format contained only selected-response items allowing for "consistency of response across respondents" (Wiersma & Jurs (2009, p. 205).

Data analysis

This study used logistic regression to predict who is likely to complete given the data. Prior to regression analysis, factor analysis was used, as it is appropriate "to investigate concepts that are not easily measured directly by collapsing a large number of variables into a few interpretable underlying factors" (Rahn, 2008, para. 2). Factor analysis is a "method of data reduction" (UCL Regents, 2015, para. 2). An exploratory factor analysis was used because it is considered appropriate when the researcher does "not have a pre-defined idea of the structure or how many dimensions are in a set variables" as opposed to a confirmatory factor analysis which is used in testing a specific hypothesis and for verification purposes (Torres-Reyna, *n.d*.). General accounts of all material that may be on/about the research area were also analysed.

2.5 Response rate and classification

One hundred and fifty-five (155) of the University of Botswana's 2014 and 2015 cohorts of graduate programme completers responded to a 30-item Likert-scale questionnaire. Response rate was 58 per cent with 80 (51.6%) being male and 75 (48.4%) females. The research sample comprised 137 (88.4%) Masters; 3 (1.9 per cent) MPhil and 15 (9.3%) PhD. Eighty-one (81) (52.3%) reported timely completion and 74 (47.7%) reported delayed completion. To classify programme completion, participants were presented with the item "*How many additional years did it take you to complete your graduate programme of study?*" *The Dependent/outcome variable: programme completion status was dichotomous (1= timely completion; 0 = delayed completion.* Those who responded, "Zero additional years" were classified as "*timely completion*" and those who responded with any other number of years were classified as "*delayed completion*". About 52.3% (81 out of 155) of the participants indicated timely completion while 47.7% (74 out of 155) indicated some delay in completion of their program. Though more participants reported timely completion than those with delayed completion (52.3% versus 47.7%) the difference was not statistically significant ($p = .630$) at a significant level of $\alpha = .5$.

The predictor variables entered into the Logistic Regression analysis were *Age group; Study mode, Sponsorship, and Students' attributes.* The Logistic regression omnibus test revealed that the full model was statistically significantly different ($\chi^2 = 51.3$ $p < .001$) from the Empty model (Model without any predictor variable, with only a constant) as a predictor of *programme completion status*. The fit of the model was assessed using the Hosmer-Lemeshow goodness of fit Chi-square test. For this test, a good model produces a non-significant Chi-square. The test was non-significant for this data too ($\chi^2 = 8.45$; $df = 8$; $p = .391$) indicating a good fit of the model to the data. Additionally, a classification table was used to "evaluate the ability of the model to correctly predict the outcome category for cases for whom outcome is known (Tabachnick &

Fidell, 2004). The variables for the model correctly classified participants into observed values of *Programme completion status* 77.9 per cent [(56+60)/ (72+77)] of the time. Furthermore, the full model accounted for 62 per cent of the variance in *programme completion status* (*Nagelkerke* R^2 *= .620 taken as a measure of effect*).

2.6 Data analysis procedures

Statistical analysis of data for the quantitative survey questionnaire was done using IBM SPSS Statistics Version 21 software. SPSS was chosen because it could be used for data entry and "It's broad array of analytical techniques lets you drill down into the data to discover subtle relationships" (Oconnor, 2016, "10 great reasons to use IBM SPSS Statistics for data analysis", para. 9). In addition to its statistics, it has commendable "graphics, data preparation and data management capabilities …" (Oconnor, 2016, "10 great reasons to use IBM SPSS Statistics for data analysis", para. 13).

Results were interpreted to establish trends and patterns on timely and delayed completion rates. According to Chilisa and Preece (2005, p. 27), in making reference to positivist/post-positivist paradigm "Statistical procedures are essential for analysing, summarising and presenting results."

Regression is an extension of multiple regression in which the outcome variable is categorical (Field, 2011; Tabachnick & Fidell, 2004). It is used to classify cases into groups as well as to predict categorical outcomes of new cases based on the given predictor variables. For this research study the dependent variable (or the outcome variable) is "Results". It is dichotomous with levels: timely completion and delayed completion. The two levels have been coded as "1" or "0", representing respectively whether the student completed timely "1" or completed with some delay "0" his/her studies. Thus, category "1" represents success to complete the study on time while category "0" represents failure to complete the study on time. Timely completion, in this analysis, refers to those who completed the programmes on time and delayed completion refers to those who did not complete on time but who eventually completed their graduate studies. The independent variables (also referred to as the predictor or explanatory variables) are the demographic and institutional variables.

In regard to the underlying statistical assumptions, Logistic Regression was selected for this study over, for instance, Linear Regression or Discriminant Function Analysis because these would violate a number of assumptions. Linear regression, for example, requires that the outcome variable be continuous and would not work with a categorical outcome variable which also violates the assumption of linearity. Discriminate Function analysis, on the other hand, would demand that the independent variables whose values describe the characteristics of the observations in the groups be multivariate normally distributed (Field, 2011). That said, most if not all of the demographic variables in this research are categorical and hence the multivariate normality

assumption would not be tenable. Logistic regression is considered more robust than discriminate analysis when normality assumptions are questionable (Antonogeorgos, Panagiotakos, Priftis, Tzonou, 2009).

To overcome the problem of non-linearity, logistic regression transforms data into logarithm values. This transformation expresses a non-linear relationship in a linear form (George & Mallery, 2005). The transformation is done through the *Logit* function. *Logit* is the natural logarithm (ln) of the odds. Odds, on the other hand are the ratio of the probabilities that an event will occur divided by the probability that an event will not occur (George & Mallery, 2005; Field 2011; Tabachnick & Fidell, 2004).

Specifically, logistic regression predicts the probability of the outcome category (y) occurring given known values of the predictor variable *Xs*. It generates an equation which can reliably classify the cases into one of the outcome categories (*Equation*) which is as follows.

$$\text{Ln}\left(\frac{probability\ of\ timely\ completion}{probability\ of\ delayed\ completion}\right) = \beta_o + \beta_1^{(\text{gender})} + \beta_2^{(\text{age})} + \ldots + \beta_{38}^{(\text{availability of study time})}$$

$$\left(\frac{probability\ of\ timely\ completion}{probability\ of\ delayed\ completion}\right) = e^{\beta_o} \times e^{\beta_1^{(\text{gender})}} \times e^{\beta_2^{(\text{age})}} \times \ldots \times e^{\beta_{38}^{(\text{availability of study time})}}$$

$$\text{Probability of completion} = \frac{1}{1+e^{-\beta_0} \times e^{-\beta_1(gender)} \times e^{-\beta_2(age)} \times ? \times e^{-\beta_{38}(availability\ of\ study\ time)}}$$

$$\text{Thus } P(Y) = \frac{1}{1+e^{-(\beta_0 + \beta_1(gender) + \beta_2(age) + \beta 38(availability\ of\ study\ time)}}$$

Equation

In the Equation, P(Y) is the probability of Y occurring (thus the probability of the outcome variable occurring. Expressed differently, it is the probability of a student completing in time, *e* is the base of the natural logarithm (Euler's number), β_0 is the intercept parameter, β_i (*i = 1, 2, 3, …, 38*) are the slope parameters and x_i (*i = 1, 2, 3, …, 38*) are predictor variables. The parameters are estimated by fitting models to the observed data based on the available predictors. The SPSS logistic regression routine was used to model the data with maximum likelihood estimation technique which selects the coefficient that make the observed values most likely to have occurred. This technique searches for a model of best fit to the data. The first model (baseline model or the empty model) was run with no predictor variables in it. This was followed by a full model (this is a model containing all the predictor variables). The Log-likelihood measure was noted for each of the models. The Log-likelihood is a measure that indicates how much unexplained information there is after the model has been fitted. It comes with the model. The higher the value of the log-likelihood measure, the more unexplained variance there is. That is, large values of the log-likelihood statistic indicate poorly fitted models. Subsequent models followed as predictors were

subtracted or re-entered into the model using the stepwise method. The stepwise method drops, retains, or adds predictor variables to the model depending on their contribution in accounting for the unexplained variance (Tabachnick & Fidell, 2004).

2.7 Research variables

In this study the following variables were used with respect to the statistical data collection and analysis: gender (male and female), age, learning preference, entry qualifications, students' self-motivation, students' effort, students' age, students' previous schooling, students' class attendance, parents' education, and family's socio-economic status, previous educational qualifications, previous institution of learning/training, years of employment, highest rank or position held at work, ethnicity, citizens, residents and non-citizens, part-time, distance or full-time, sponsor (self-sponsored, government or any other sponsor), marital status, educational background, off-campus, how the programme studied was selected by or for the student. Additional variables which are used more in graduate level include sufficiency of financial support for students, sufficiency in students preparation and readiness for studies, capability of students, institutional requirements, favourability of conditions, supervisors' experience in supervising post-graduates, supervisor's concern for the graduate student's progress and completion, health and wellness of the student, student's personal problems while studying and availability of study time for part-time students. For the 2014 and 2015 graduates, the data analysis was only limited to the variables captured in the survey questionnaire.

3.0 Findings

3.1 *Research question:*

"What are the demographic factors that influenced graduate programme completion among the University of Botswana's 2014 and 2015 cohorts?"

Age, Gender and Programme Completion Status

Participants' age ranged from 25 years to over 60 with a mean age of 40 (39.9) years. Over half *(*57.3%*)* of the female participants in the study were less than 40 years of age (43 out of 75) while more than half (58.8%) of the male participants were above 40 years of age (47 out of 80) at the time of the study. That is, most youth were female. Most of the female participants in the 25 - 29 years' age-range completed their studies timely in comparison to other age groups in the study. The data reveals that most males in the age-range 40-44 years had delayed completion. When analysing the association between completion status and age using χ^2 test, it was found that some of the expected frequencies were less than 5, which violated one of the assumptions of the χ^2 tests. Consequently, some age groups were combined to overcome the problem. Three new categories were formulated: *Youth* – with age range > 35 years, *Middle age* 35-50, and *Older* 50<. The proportion of youth who completed timely was higher than the proportion of other year-groups of the same completion status with the percentages of delays increasing in older ages. Significant results for variables with more than two levels were followed up with *post hoc* comparisons using

standardized residuals (z-values) to establish the component that led to the significance. There was a significant association between *age group* and *completion status* [χ^2 = 5.076 *df* = 1, *p* =. 024 (<.5)]. This significance was because of the age category "youth".

Study mode

Findings show that graduates who indicated that they were full-time students and the predictor variable, *Study-mode* was statistically significantly associated with the dependent variable *Programme completion status* (χ^2 *= 5.211 df = 1, p = .017).* S*tudy mode* had two levels (part-time and full-time). Those studying part-time were taken as the reference group. Results of logistic regression analysis on *study mode* showed that he odds of students who studied full-time reporting timely completion were 40 times that of those who studied part-time.

Sponsorship

The variable *sponsorship* also showed a significant association with *Programme completion status (χ^2 =; df = 1; p =.047*). In response to *'who paid your university fees?'* participants who indicated that they got a scholarship were significantly more likely to complete on time than those who were government-sponsored, self-sponsored, employer-sponsored. Percentages of timely completion for the four categories were: scholarship => 75%, self-sponsored => 53%, government => 50% and employer => 34.5%. Logistic regression analysis results reveal that the variable *sponsorship* had a marginal association (p = .057) with *programme completion status* for the category of those with a scholarship. Students who reported being on a scholarship were about five times (OR = 4.7; 95% CI .95 to 23.2) more likely to report timely completion than the odds of those whose fees were paid for by the employer. Those paid for by the government were less likely to report timely completion in comparison to those paid for by the employer.

Students' attributes

There was a significant difference in mean response between graduates who completed timely and those who delayed for *student's attributes* (F = 4.2, *p* = .044). The timely completers were more positive about the UB environment and their education, citing attributes such as passion, commitment, discipline, time management, mental toughness, good communicator, and diligence. *Students' attributes* were a significant factor. For a one unit increase in the *attributes,* the odds of students reporting timely completion would increase by a factor of 3.37.

4.0 Discussion

The findings of the research on age group, study mode, sponsorship, and students' attributes are discussed in this section. The findings age group confirm similar findings by Wollast et al. (2018) indicating that younger PhD students have a higher completion rate than older ones.

Part-time enrolment has been found to be negatively associated with delayed completion, submission and stipulated candidacy duration (Spronken-Smith, et al., 2018) as shown in this study

Delayed completion by mode of study has also been noted in Australia and Britain in a survey by the Department of Education and Youth Affairs, showing that while both part and full-time students delay, more full-time research students funded by the Research Councils failing to graduate in the stipulated and funded time (Moses, 1985).

Spronken-Smith, et al. (2018) similarly found that positive association between sponsorship and timely completion, submission, and stipulated candidacy duration at the University of Otago. Similarly, in Italy, a reform aimed at increasing PhD completion rates by increasing funding yielded an increase. Similarly, Wollast et al. (2018) showed that funding in Belgium was associated with dropout rate.

The findings on students' attributes corroborate those of a USA study on first generation doctoral students in two institutions, where the at-risk candidates mentioned they relied on their personal attributes, such as, self-motivation, self-efficacy, resilience, perseverance, (Gardner & Holley, 2011). Muthukrishnan. et. al. (2022) in three universities in Malaysia had similar findings regarding individual students' self-motivation. Matheka et. al. Kenya's study findings of PhD in Medical Sciences showed the role of intrinsic motivation as a predictor of a student's pace. Similarly, in the South African context, 'the self' is regarded as a great resource in academic success that enables the person to make their own networks and mentors (Pillay, et al., 2016).

5.0 Conclusion

It is logical to assume that students who enrol into a graduate programme do so with the intention to complete on time. However, some delay, transfer or drop out due to a host of demographic factors. The empirical evidence needed to understand the complex mix of factors related to graduate programme completion rates have been sparse in the Botswana context. Hence, this exploratory study focusing on the Botswana's flagship university is important. The statistically significant findings of this study related to age group, study mode, sponsorship, and students' attributes for targeted interventions. The implications for policy, practice and research include educating the older graduate students on their at-risk factors as well as putting in place measures to enhance their retention and successful timely completion. In light of the finding on lack of finance being associated with delayed completion, provision of government sponsorship or financial aid to graduate students needs to become prioritised to enable them to study on a full-time basis and focus on their studies. The finding on students' positive attributes, positive outlook and perception about the university environment correlating with timely completion calls for faculty training on creating a positive mind set for graduate student supervision experience, , intensification of advising services for mature part-time students. Future research could recruit a larger sample to replicate the study and/or use institutional archival data to generate detailed and nuanced data about graduate students' needs and challenges towards greater output efficiency.

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