Motivational Factors Influencing Learners' Academic Success in an Australian Enabling Education Setting

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Abstract

The main objective of this study is to identify and discuss the motivational factors that significantly influence learners' academic success in an Australian enabling education setting. The logistic regression technique has been employed to identify the motivational factors using data collected through online surveys with 331 learners enrolled in Foundation Studies and Diploma programs at a South Australian university. Empirical results showed that there are some dominant motivational factors that can be used to predict how and why they are important in influencing learners' academic success in these programs. The motivational factors that were found to significantly influence learners' academic success include the time available to study, work status, living with a disability, and childcare arrangements. Individual study habits and interest in the materials were also found to be significant. Additionally, several other motivational factors were found to not significantly influence learners' academic success within the same environment. Overall, these results showed that learners with higher intrinsic motivation drivers are more likely to succeed in enabling education. Therefore, appropriate teaching and learning approaches and environments, including diversified supports and mechanisms that can assist students to encourage motivation, are vital for learners to succeed in enabling programs.

Keywords: motivation, enabling education, academic success, pathway programs, learners

Introduction

Motivation has long been recognized as a distinct characteristic of strong student practice. More specifically, motivation within the academic environment is recognized for its strong influence on achievement and learner behavior (Liu et al., 2012; Lynch, 2006). While research on motivational factors affecting learners' academic success at the undergraduate level is plentiful (see Abouserie, 1995; Archer et al., 1999; Bartimote-Aufflick et al., 2016; Breen & Lindsay, 2002; Daniel & Johnstone, 2017; Levy & Campbell, 2008; Shin et al., 2017; Wiseman et al., 1988), empirical research on motivational factors that influence learners' academic success in the setting of enabling university pathway programs is comparatively limited.

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An earlier study on enabling university pathway programs reported that developing intrinsic motivation was a desired skill identified by learners (Stokes, 2014). Also, Archer et al. (1999: 50) reported graduates of enabling programs enrolled in undergraduate study were more likely to be motivated by mastery of the materials they were learning. Despite this finding, research that specifically identifies motivational factors of enabling students as they study in enabling programs is an identified gap. This study aims to identify and analyze the intrinsic and extrinsic motivational factors that could influence learner success in enabling university pathway programs.

Enabling university pathway programs seek to provide learners who have experienced educational disadvantage or interruption with a pathway into higher education. While they differ in duration, mode of study, and number of courses, they have been designed to support the widening participation agenda by ''providing opportunities for all capable people to participate to their full potential'' (Bradley et al., 2008, p. 10). Key to this policy is the drive to reach the target set in the same review that '20% of undergraduate enrollments in higher education should be students from low socio-economic backgrounds,'' informing a larger target, in which "40% of 25- to 34-year-olds will have attained at least a bachelor-level qualification by 2020" (Bradley et al., 2008, p. xiv).

UniSA College at the University of South Australia is an established provider of enabling Foundation Studies, streamed Diplomas, and the Aboriginal Pathway Program, which serve to both prepare students for a successful transition into undergraduate programs and broaden university participation from recognized equity groups within the South Australian community. Frequently, learners in enabling university pathway programs identify with multiple Australian government equity categories[3], have experienced educational disadvantage or interruption and are frequently the first in their families to attend university (Cantwell et al., 2001). University participation rates are considerably lower in low SES areas in Australia (Vernon et al., 2019), with enabling programs seeking to shift from this deficit discourse to instead focusing attention on reducing exclusion and inequality within higher education (Burke et al., 2016; Gale & Parker, 2013).

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[3] Australian government Higher Education equity groups include students that are from a non-English speaking background (NESB); have a disability; are women in non-traditional areas; identify as indigenous; are from low SES (socio-economic status) locations based on postcode of permanent home residence; and are from regional and remote locations.

This research aims to identify the potential relationship between key factors associated with learner motivation and success in a core academic literacy course in a large Australian enabling education program comprising approximately 1500 students. It specifically seeks to identify the intrinsic and extrinsic motivational factors influencing learner success in enabling education programs. Intrinsic and extrinsic drivers of motivation have been of considerable interest to researchers to explain individual motivation (e.g., Bénabou & Tirole, 2003; Deci, 1975; Ryan & Deci, 2000; Vallerand, 1997), despite arguments surrounding the problematic dualism inherent in this binary (Reiss, 2012) and a shift instead toward a hierarchal and multifaceted approach (Vallerand & Ratelle, 2000). Despite this, Ryan and Deci stated (2000: 55), "Over three decades of research has shown that the quality of experience and performance can be very different when one is behaving for intrinsic versus extrinsic reasons".

Intrinsic motivators are those which satisfy the person themselves and bring inherent joy and reward. Conversely, extrinsic motivation is associated with satisfying external goals, for example, receiving a reward or recognition from others. In the case of learners, intrinsically motivated students view learning as an opportunity to satisfy their curiosity, whereas extrinsically motivated learners are driven by rewards or goals external to themselves, usually in the form of praise or grades (Lynch, 2006). Lynch (2006) recognized a relationship between the likelihood of learners new to university to follow previously established learning routines and extrinsic motivation factors and examined how this differs from students who are further advanced in their studies within a higher education context. Existing empirical research on intrinsic and extrinsic motivational factors influencing learner success in enabling education programs is limited.

This study, therefore, aims to address this research gap and contribute to the existing literature on enabling higher education by addressing the following research questions:

1) What are the intrinsic and extrinsic motivational factors that considerably influence learners' academic success in an Australian-enabling education setting?
   a) Are these factors predominantly intrinsic or extrinsic?
2) How do these factors influence academic success of learners?
3) What are the motivational factors that insignificantly influence academic success of learners?

In addressing these research questions, this study identifies and critically analyzes the intrinsic and extrinsic motivational factors that considerably influence learner success within an enabling

education program. Empirical outcomes from this study are expected to help predict the relationship between intrinsic and extrinsic motivational factors and learner success in other Australian enabling education programs to support educators to further understand diverse student cohorts and enhance teaching environments. Depending on the similarity in context and characteristics of education programs and learner cohorts, these empirical findings are expected to have wider applicability in other higher education institutions elsewhere in the world. The rest of the study is structured as follows: research methodology followed by empirical results and discussion, and finally, conclusions and implications.

Methodology

Data Collection

Using a structured questionnaire following Pintrich and DeGroot's (1990) motivational and self-regulated learning components of classroom academic performance, data for this study were collected through an online survey development tool: SurveyMonkey. No criteria were used to differentiate between pre-university Diploma and Foundation Studies students for gender or other socio-economic and demographic backgrounds. This study targeted all learners enrolled in Diploma and Foundation Studies enabling programs for sampling. A survey link was then sent to all students enrolled in the core unit for both programs with a request to participate in the survey. Participation in this survey was voluntary; however, prior to conducting the survey with the targeted sample respondents, human research ethics approval from the authors' institution was obtained. Of the 1483 students invited to participate in the survey, 331 students successfully completed the survey questionnaire, with a participation rate of 22.31%.

In this study, the validity and reliability of data collection tools have been carefully utilized. Upon running the data validation tool of SPSS, all variables and data values passed the requested check. Also, the whole data set has been checked for reliability, and hence, the reliability analysis of SPSS has generated a Cronbach alpha value of 0.21 for 62 items and 331 sample cases. As the validity of data collection is mainly about ensuring the accuracy and quality of data, we have conducted several procedures in ensuring it. Firstly, we made sure that only learners enrolled in Foundation Studies and Diploma programs were sent the online questionnaire survey link and that only those learners participated in the survey. All incomplete questionnaires and questionnaires with any

missing values/entries were excluded from the analysis. Each fully completed questionnaire was checked for expected variable range, such as age, gender, study mode, work status, etc. as well as being checked for clarity and consistency. Finally, we conducted a data validity check in Excel and found that the refined data set passed the validity test. The sample size used in the study is also well supported and no missing values were reported in any single questionnaire completed by the respondents. To justify this sample size, the following formula for sample size determination was employed:

$$Sample\ size = \left((Z^2 \times p(1-p))/e^2\right) / \left(1 + \left((Z^2 \times p(1-p))/(e^2 N)\right)\right) \ldots\ldots\ldots\ldots\ldots(1)$$

where N = population size, which is 1483, e =margin of error and z = z-score, confidence level of 95%, and margin of error of 5%.

Solving the above equation determines the minimum sample size of 306, but the sample size in this study is 331.

As claimed by Podsakoff et al. (2003, p. 899),

> "The key point to remember is that the procedural and statistical remedies selected should be tailored to fit the specific research question at hand. There is no single best method for handling the problem of common method variance because it depends on what the sources of method variance are in the study and the feasibility of the remedies that are available."

Therefore, they suggest researchers to use one of the statistical remedies, even though none of the procedural remedies will minimize the detrimental effects of method biases. Following Kock (2015) we conducted a collinearity test as the appropriate statistical remedy to identify the common method bias of multiple logistic regression model. To check whether any multicollinearity problems exist in the estimated model due to it having very high or unusual correlations (i.e., >0.8) between predictors, we conducted the collinearity test on all the predictors and found that none of them is having such a high collinearity problem.

Data Analysis

Learner success in this study was determined based on the final mark students obtained in a core academic literacy course which is completed as part of both the Diploma and Foundation Studies

programs. Course grades were obtained with permission. As the key objective is to predict and analyze the intrinsic and extrinsic motivational factors that considerably influence learners' academic success, a logistic regression technique is employed to achieve that objective. The logistic regression model involves a dichotomous dependent variable against several independent variables, which can be interval, binary and categorical in nature, and are regressed. In our effort to fit a dichotomous dependent variable, which comprises a value of 1 for yes and 0 for no, in the logistic regression model, we transformed all participated learners' obtained marks into two dichotomous values. We specifically considered it learners' academic success when the participant obtained a minimum grade of 50 out of 100 in the course, which was coded as 1. We considered it learners' academic unsuccess when the participant obtained a grade of less than 50 out of 100 in the course, which was coded as 0.

The estimation procedures for multiple logistic regression model to predict the intrinsic and extrinsic motivational factors influencing learners' academic success can be portrayed in the following equation form:

$$In \left(\frac{\hat{p}}{(1-\hat{p})}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_k X_k \ldots\ldots\ldots (2)$$

where $\hat{p}$ is the probability of an academically successful learner, $\frac{\hat{p}}{(1-\hat{p})}$ is the odds ratio, i.e., the probability for a learner who is not academically successful, β_0 is intercept, and $\beta_1 \rightarrow \beta_k$ are the coefficients for k explanatory variables $X_1 \rightarrow X_k$. While the equation for probability of successful learners is well known, if we want to know the probabilities of learners who are not successful, the following logistic regression equation can be employed:

$$\hat{p} = \frac{exp(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_k X_k)}{1 + exp(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_k X_k)} \ldots\ldots\ldots (3)$$

where $0 < \hat{p} < 1$ and a positive value of the coefficients implies that the odds of success of learners increase with a positive change in the respective explanatory variable. Also, a negative value of the coefficients implies otherwise. That means the odds of success of learners decrease with a negative change in the respective variable. SPSS was used to compute descriptive statistics and estimate the multiple logistic regression model.

It is important to elucidate how the measurements fit all assumptions of the multiple logistic regression technique used in this study. This can be traced from the logistic regression model's sensitivity analysis. In this case, the model appears to be able to correctly classify 97.8% of the

learners who have achieved "success" and 28.3% of the learners who have achieved "otherwise" (i.e., "unsuccess"). Of the learners who are predicted to have achieved "success" the model accurately picked 87.74% of them. Also, of the learners predicted to have achieved "otherwise," i.e., those who were unsuccessful, the model accurately picked 71% of them. The Hosmer and Lemeshow (2000) goodness of fit test also supports the estimated logistic regression model as being useful. In this study, this test produced a chi-square value of 7.40 with a significance value of 0.50. As the significance value is greater than 0.05, it would be safe to say that the estimated logistic regression model is well supported.

Findings

Descriptive statistics

Of the 331 respondents, 278 (84%) were determined to have achieved academic success in this unit within their pre-undergraduate program, while 53 respondents (16%) were deemed academically unsuccessful. This demonstrates a significant difference between the proportions of learners who have achieved academic success and those who have not achieved so in the enabling university pathway programs. Appendix 1 contains descriptive statistics for each independent variable.

Table 1

Frequency of Learners Who Achieved Academic Success and Who Have Not Achieved It

		Frequency	Percentage	Valid percentage	Cumulative percentage
Valid	Academic success not achieved	53	16.0	16.0	16.0
	Academic success achieved	278	84.0	84.0	100.0
	Total	331	100.0	100.0	

Estimated logistic regression model for predicting learner's academic success

Before presenting and discussing the key empirical findings that we obtained through the logistic regression model, it is important to report the model test result and classification table. According to the model's classification table, 84% of cases were correctly classified. Based on the model

assumption, all the learners would not have achieved "success" with their enabling education, as at least 53 learners had been unsuccessful. The model test results provide information about the model's strength and usefulness. The Cox and Snell (1989) R^2 and the Nagelkerke (1991) R^2 values indicate the amount of variation in the dependent variable explained by the model (from a minimum value of 0 to a maximum of approximately 1). In this case, the two values, 0.20 and 0.35, suggest that between 20% and 35% of the variability is explained by this set of variables. Another strength of the model can be traced from the refined classification table that indicates how well the estimated model can predict the correct category (i.e., a learner's academic "success" or "otherwise") for each observation. Upon comparing the output of the refined classification table with the one discussed earlier, an improvement has been observed in the overall model prediction while the predictor variables have been included in the model. The refined model now accurately classifies 87.6% of observations overall, which is an improvement over 84% in the initial classification table.

Of all the independent variables which were regressed against the dependent variable in the logistic regression model, only eight of them were found to significantly influence learners' academic success in enabling education programs (Table 2). The independent variables that were not found to significantly influence learners' academic success are listed in Table 3. The estimated multiple logistic regression model comprising eight significant independent variables can now be used for predicting learners' academic success in this enabling education program. However, the refined multiple logistic regression model takes the following equation form, where figures in parentheses are *t*-values of the regression coefficients:

$$In\left(\frac{\hat{p}}{(1-\hat{p})}\right) = \underset{(0.93)}{5.30} + \underset{(3.08)}{2.31}\,X_1 + \underset{(1.71)}{3.17}\,X_2 + \underset{(2.45)}{2.40}\,X_3 - \underset{(-2.92)}{3.01}\,X_4 + \underset{(1.64)}{0.72}\,X_5 + \underset{(1.64)}{0.77}\,X_6 + \underset{2.13}{3.20}\,X_7 + \underset{(1.56)}{2.99}\,X_8 \ldots (4)$$

Table 2

Motivational Factors That Significantly Affect Learners' Academic Success in an Australian Enabling Education Setting

Independent variables	β	S.E.	Wald[4]	Sig.
X_1 = Studying full-time? (coded 1 for full-time study; 0 for otherwise)	2.31	0.75	5.45	0.00^{***}
X_2 = Learner's work status (coded 1 for full-time working; 0 for otherwise)	3.17	1.85	2.95	0.10^{*}
X_3 = Learner has a disability (coded 1 for having a disability; 0 for otherwise)	2.40	0.98	5.83	0.02^{**}
X_4 = Learner with child/children made changes to childcare to study (coded 1 for yes; 0 for otherwise)	-3.01	1.13	7.10	0.01^{***}
X_5 = Learner maintains a diary and/or study plans to study (coded 1 for yes; 0 for otherwise)	0.72	0.44	2.74	0.10^{*}
X_6 = It is the learner's idea to study at the university (coded 1 for yes; 0 for otherwise)	0.77	0.47	2.76	0.10^{*}
X_7 = Learner likes the subject matter of the course (coded 1 for yes; 0 for otherwise)	3.20	1.50	4.75	0.03^{**}
X_8 = Learner devises questions to help focus on reading while reading the learning materials (coded 1 for yes; 0 for otherwise)	2.99	1.92	2.43	0.10^{*}
Constant (=β_0)	5.30	5.70	0.87	0.35
Cox & Snell R^2	0.20			
Nagelkerke R^2	0.35			

Note: *** indicates significance at the 1% level ($p \leq 0.01$)
** indicates significance at the 5% level ($p \leq 0.05$)
* indicates significance at the 10% level ($p \leq 0.10$)

The multiple logistic regression outputs in Table 2 reveal eight independent variables, which are significantly influencing learners' academic success within the examined enabling education program. Of these eight, two motivational factors, whether the learner is studying full-time (X_1) and whether the learner with a child/children has made any changes to childcare to study (X_4), are found to be highly significant ($p \leq 0.01$) in influencing academic success with their enabling education programs. The variable of X_1 produced a positive coefficient, which implies that

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[4] Wald statistics: Wald test in multiple logistic regression analysis helps to determine whether an independent predictor variable is statistically significant. It null hypothesises that the value of coefficient of an independent predictor is zero. The Wald statistic is basically t^2, which is the ratio of the square of the regression coefficient of an independent predictor variable to the square of the standard error of that coefficient [i.e., $(\beta/SE)^2$] and is Chi-square distributed with one degree of freedom. Although it has been reported in logistic regression analysis to assess the significance of an independent predictor variable the probability value (i.e., significance level) of each predictor variable provided by the model serves the same purpose here.

students studying their enabling program full-time have higher odds of success than their part-time peers. The rationale for this finding is arguably straightforward as full-time learners may have fewer temporal demands than part-time students, allowing for more focused time commitment to their studies, translating into academic success. In contrast, part-time learners have comparatively less time to spend on studies, which may logically be interrupted by other temporal demands or obligations that may negatively influence their academic success. MacCann et al. (2011) observed that part-time learners in similar programs are more likely to have work and childcare commitments, which detract from the time available to study and thereby impact their achievement. We, therefore, suggest that intrinsic motivation of learners to learn full-time results in academic success in the enabling education programs. Based on a large, massive open online courses (MOOC) case study, Samuelsen and Khalil (2020) suggested a curvilinear relationship between effort over time and a learner's academic success. Also, Carbonaro (2005) reported that learners who achieved higher grades utilize substantially more effort than those who achieved lower grades.

The variable of X_4 produced a negative but highly significant ($p \leq 0.01$) coefficient in the multiple logistic regression model, which suggests that the odds are higher for learners to succeed in the enabling education program if they do not arrange childcare for their children. It would be possible to interpret this finding in multiple ways. Firstly, it is possible that students' children were not at an age that required childcare, allowing them to undertake study during school hours. Alternatively, this may imply that learners who care for their dependent children themselves while undertaking studies tend to demonstrate a higher academic success rate than those who arrange professional childcare services for their dependent children. This interpretation of students who are parents as successful learners aligns with Wainwright and Marandet's (2010) findings that reported over 67.4% of undergraduate learners who were parents cited their primary drive for further education being a desire to be a role model for their children. As outlined by Craft (2019), mature-age learners in the category of learners with children can perform much better academically than their younger counterparts, despite the potential barriers they face. This intrinsic motivation to succeed is compounded by the desire to build financial and family stability (see Wainwright & Marandet, 2010). An equally important consideration is the expense and availability of childcare in Australia. Considering the large numbers of learners from low SES backgrounds who participate

in enabling education programs, it is logical that childcare expenses and availability are prohibitive, or the practicalities of managing timetables with irregular hours are problematic.

Two motivational factors considering "whether the learner has a disability" (X_3) and "whether the learner likes the subject matters of the course" (X_7) were also found to positively and significantly ($p \leq 0.05$) influence learners' academic success in the examined program. This finding of a learner's disability positively influencing academic success contrasts with findings obtained by Abbott-Chapman et al. (1995) in an Australian context where disabilities were found to be unrelated to student academic performance. This finding also runs counter to those of Kilpatrick et al. (2017), who found that learners with a disability consistently demonstrated lower success rates than those of the total learner population in Australian higher education.

Additionally, while success ratios of students with a disability are high, Australian Disability Clearinghouse on Education and Training (ADCET, 2019) reported that undergraduate students with a disability are less successful than undergraduates studying without a disability. However, our empirical finding strongly supports that a learner with a disability studying within enabling programs at the University of South Australia does not experience this similar impact on their "success". The justification for this finding emphasizes the requirement and responsibility of universities to ensure that support services and responsible adjustments are provided so that learners with a disability can access and participate in education on the same terms as clearly legislated in the Australian Disability Standards for Education 2005.

Further support for this rare empirical finding could be due to the pedagogical approach adopted by UniSA College, which fosters an environment of support for all students and their individual needs, underpinned by an ethos of care and a commitment to social justice (Hattam & Weiler, 2021).

This is in addition to the highly collaborative relationship established between academics within the enabling programs and the university's centralized supports for ongoing assistance provided to learners with a disability. For instance, at our university learners with a disability receive individualized and tailored support and flexibility from both areas, which contributes positively to their learning outcomes and help them achieve academic success. This is fostered through close engagement between academic staff teaching students and colleagues who work in access and inclusion who provide support and advice for both students and staff.

We also examined whether learners' success in a course is affected by how much they enjoy the course's subject matter. As mentioned earlier, this intrinsic motivational factor (X_7) generated a positive and significant ($p \leq 0.05$) coefficient in the multiple logistic regression model. This implies that if a learner finds the subject matter of a course interesting, the odds of them succeeding in the course are significantly higher. This empirical finding is consistent with an earlier study by Ngai et al. (2018), reporting a positive relationship between learners' interest in the subject materials and their academic success.

In addition, Quinlan (2019) reported that learners' interest in subject materials considered useful to them personally or for their future is particularly relevant, given that the course examined provides learners with the required knowledge to navigate their future undergraduate degrees.

As these findings suggest, learners' genuine interest in subject matter keeps them highly engaged with the learning materials making them more likely to achieve subject learning outcomes and academic success in their pathway program. In addition, while this subject is a core subject and challenging in nature, it aims at providing learners with acculturation to university norms.

In keeping with critical enabling pedagogy, this course utilizes challenging tasks supported by strong scaffolding to build student confidence and agency (Hattam et al., in press). In line with findings from Lynch (2006), learners' effort has been found to diminish with increased subject difficulty, with learners reporting these difficult subjects to be less meaningful or interesting. Our empirical findings revealed that a suitable balance between learner's liking of the subject matter and difficulty level of the subject matter should be struck to help learners achieve academic success in enabling education. Professional development in critical enabling pedagogy supports educators in embedding these approaches (Hattam & Weiler, 2022).

It was found that four other motivational factors positively and significantly ($p \leq 0.10$) influence learners' academic success in enabling education programs. These independent motivational factors are "whether the learner is working full-time" (X_2), "whether the learner has maintained a diary and/or study plans to study" (X_5), "whether it is the learner's idea to study at the university" (X_6), and "whether the learner devises questions to help focus on reading while reading the learning materials" (X_8). The multiple logistic regression model results showed that the odds for academic success in enabling education programs are higher for full-time working learners. While unusual, this finding is consistent with an earlier study by Polidano and Zakirova (2011). They reported that for both full- and part-time learners in the Australian tertiary education context, the longer they

have been working, the more likely they are to complete the course. As full-time working learners often enroll in programs part-time, serious dedication to studies, better time management skills, and aspiration to obtain an undergraduate degree by first completing an enabling pathway could be the likely rationales for this unusual finding.

Also, for full-time working learners, the skills acquired through a Foundation Studies certificate or Diploma can assist within existing workplaces, potentially accelerating career progression. This contextual relevance of the skills learned within higher education applicable within an existing workplace could, therefore, contribute to these students achieving the desired academic success in their studies. The finding runs counter to that explained earlier for full-time enrolled learners, who are found to have a higher likelihood of succeeding in their studies. As full-time students are not full-time employees, the findings from the multiple logistic regression model on the two learner cohorts should be examined carefully. In the multiple logistic regression model, both the coefficient value and odds ratio for an independent variable are estimated autonomously of each other.

The multiple logistic regression model analysis results show that the intrinsic motivational factor of X_5, which considers whether learners' academic success in enabling education programs is influenced by their regular maintenance of a diary and/or study plans is positive and significant ($p \leq 0.10$). This implies that there is a significantly higher likelihood for academic success in the enabling education programs for learners who regularly maintain a diary and/or study plans. This strategy can be associated with goal-setting theory (see Locke & Latham, 1990), suggesting that people with specific, challenging, and achievable goals perform better and demonstrate higher levels of self-efficacy (Bandura & Locke, 2003). Learners with a regular study plan who perform better or achieve academic success have adopted and implemented a clear strategy to achieve their goals. The rationale for this could be that maintenance of a diary and/or study plans by learners demonstrates their commitment, regular engagement, and timely action with studies that ultimately result in academic success. This is further supported by a positive relationship between a learner's academic success and "resource management factors," including time and study environment, as emphasized by Lynch (2006).

The estimated multiple logistic regression model provides evidence for the fact that in enabling education programs, learners' probability of academic success is significantly ($p \leq 0.10$) higher if it is their intrinsic motivation that drives them to study at university. This means that learners who

are intrinsically motivated to study in enabling education programs outperform those who are extrinsically motivated, particularly by their parents, friends, and close relatives.

Froiland et al. (2012) examined United States' K-12 learners and found similar results. They claimed that intrinsic motivation to learn could lead to academic success. Additionally, Scott et al. (1998:222) stated, "intuitively, strength of motivation for attending university should predict strength of commitment to study, and thus likelihood of leaving before completion." The empirical finding from this study suggests that being intrinsically motivated by identifying that it was the individual's idea to enroll in university study plays a considerable role in their academic achievement in their enabling program.

This study also aimed to examine whether the learner's academic success in enabling education programs is predictable, depending on whether they have developed questions to help focus on reading while reading learning materials (intrinsic motivational factor X_8). The multiple logistic regression model generated a positive and significant ($p \leq 0.10$) coefficient for this variable, suggesting a higher likelihood of enabling learners to succeed if they possess the intrinsic motivation to devise questions to help focus on reading while reading learning materials. This is consistent with Vansteenkiste et al.'s (2006) finding, which reveals that intrinsic goal framing leads to enhanced engagement, better conceptual understanding, and persistence in learning activities. It would be safe to claim that learners who develop questions to help focus on reading while engaging with learning materials consider their studies seriously and are dedicated to their learning. Therefore, logically, the likelihood of their academic success in enabling education programs were found to be significantly higher than that of others. This finding matches with Bandura's (1997) self-efficacy beliefs, which reveal that performance accomplishment, where learners achieving previous academic success with this type of activity are more likely to have increased efficacy expectations. This aligns with research suggesting that competence enhances intrinsic motivation the most when the individual receives feedback on performance (Firestone, 2014). As Bartimote-Aufflick et al. (2016) stated, such performance accomplishments have often been the most powerful sources of efficacy beliefs for university learners. Seemingly, the dominant motivational factors identified and analyzed in this study are mostly intrinsic in nature. Therefore, learners' academic success in enabling education programs is largely influenced by their intrinsic motivational factors.

Table 3

Motivational Factors that do not Significantly Influence Learners' Academic Success in an Australian Enabling Education Setting

Independent Variables	β	S.E.	Wald	Sig.
Age (in years)	-0.05	0.06	0.63	0.43
Gender (1 for male; 0 for female)	0.67	0.44	2.31	0.13
English as a first language (1 for yes; 0 for otherwise)	-0.12	0.41	0.08	0.78
Studying for better jobs (1 for yes; 0 for otherwise)	0.17	0.48	0.13	0.72
Studying for skills and knowledge (1 for yes; 0 for otherwise)	-0.17	0.43	0.15	0.70
Studying for thinking critically about the world (1 for yes; 0 for otherwise)	0.06	0.49	0.12	0.90
Feel your heart beating fast when taking an exam (1 for yes; 0 for otherwise)	-0.19	0.35	0.31	0.58
Feel certain about mastering skills taught in course (1 for yes; 0 for otherwise)	0.41	0.61	0.46	0.50
During class, we often miss important points because of other thinking (1 for yes; 0 for otherwise)	-0.13	0.24	0.27	0.60
Often try explaining materials to classmates and friends (1 for yes; 0 for otherwise)	0.31	0.30	1.08	0.30
Practice saying materials to myself over and over (1 for yes; 0 for otherwise)	0.04	0.37	0.01	0.92
Even after having trouble learning materials, I do work without help (1 for yes; 0 for otherwise)	0.10	0.50	0.04	0.85
When I become confused about learning materials, I try to figure it out (1 for yes; 0 for otherwise)	0.32	0.38	0.69	0.41
If learning materials are challenging to understand, I change the way I read them through (1 for yes; 0 for otherwise)	0.13	0.20	0.44	0.51
Read through class notes and course materials over and over (1 for yes; 0 for otherwise)	0.38	0.45	0.70	0.40
Work hard to do well even if I do not like what I am doing (1 for yes; 0 for otherwise)	-0.46	0.45	1.02	0.31

Table 3 shows the motivational factors that do *not* significantly influence learners' academic success studying in the enabling programs. Though these independent factors are found insignificant in the multiple logistic regression estimations, the coefficient signs (positive/negative) imply relationships that exist with the dependent variable. While insignificant effects of these independent variables on the dependent variable are considered not important to explain learners' academic success, they provide clues to the relationship between them within an Australian enabling education setting. Importantly, this finding can contribute to countering discourses that may come from anecdotal sources or misrecognition of particular student groups being potentially more successful than others based on such factors.

Discussion, Conclusion and Implications

In an Australian enabling education setting, this study identified and critically analyzed the motivational factors that have a major impact on learners' academic success. It also documented the factors that have no significant impact on learners' academic success. Predictably, intrinsic motivation is a strong predictor of academic success.

This can be seen in learners with high levels of self-motivation. Importantly, this recognizes the opportunity to pair intrinsic motivation with extrinsic rewards and provides scope to consider the value of extrinsic rewards provided to learners in enabling education programs. Learners who prepare themselves for studies with time management strategies are more successful, highlighting the importance of embedding teaching around these strategies within programs.

The learners' who achieve academic success without having formal child-care support to help them is highlighted as a strength, specifically their ability to manage the temporal demands of parenting with their studies. Further support for intrinsic motivation was found in full-time learners, potentially aligned with their aspiration to achieve their future career goals as a motivating factor. Indeed, the effect of being a full-time learner on academic success can be considered a "reinforcing loop" where learners' who study full-time, committing regular efforts to learn new content, and are motivated by new learning outcomes augments the likelihood of achieving academic success in an enabling education setting.

Based on the study findings, further specific strategies can be embedded into the curriculum to enhance the learner experience and improve retention. We believe enabling education programs do more than just fulfill the anticipated goal of widening participation in universities. They help learners build self-efficacy, belief, and confidence to succeed in whatever future undergraduate pathway they choose. Through a better understanding of the intrinsic and extrinsic motivational factors, which have been identified as potentially influencing learners' academic success in enabling education programs, we are better placed to provide enhanced and diversified support mechanisms and structures so that they can achieve academic success now and in the future. These findings will have wider applicability depending on the similarity of characteristics to the academic programs, learner cohorts, and learning environment at the University of South Australia with those at other higher education institutions. It must be recognized that this study was conducted within one core course within a 12-month enabling program at a South Australian university.

Limitations include the voluntary nature of participation with no honorarium or benefit for contribution, which may dictate that students who were likely more motivated intrinsically participated. Additionally, the data were collected early in the semester of a core course, which may contribute to the interest in the subject material as students have not selected this themselves. Further research with a possibly larger sample size can be undertaken to investigate how the predictive multiple logistic regression model of motivational factors influencing learners' academic success in enabling education programs works at other levels of academic programs and in other learning modes or environments.

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Appendix

Descriptive Statistics

Motivational Factors	N	Minimum	Maximum	Mean	Std. Deviation
Age	331	17	49	22.46	7.15
Gender	331	.00	1.00	.45	.50
Studying full time	331	.00	1.00	.89	.32
Work status	331	.00	1.00	.06	.23
English as the first language	331	.00	1.00	.50	.50
Has a disability	331	.00	1.00	.09	.28
Studying for better jobs	331	.00	1.00	.66	.47
Studying for skills and knowledge	331	.00	1.00	.62	.49
Studying for thinking critically about the world	331	.00	1.00	.34	.47
Learner with child/children made changes to childcare in order to study	331	.00	1.00	.073	.26
Learner maintains a diary and/or study plans in order to study	331	.00	1.00	.63	.48
It the learner's own idea to study at the university	331	.00	1.00	.77	.42
Learner likes the subject matter of the course	331	1.00	5.00	4.74	.67
Feel heart beating fast when taking an exam	331	1.00	5.00	4.76	.65
Feel certain about mastering skills taught in course	331	.00	5.00	4.91	.43
During class often miss important points because of other thinking	331	1.00	5.00	4.35	1.05
Often try explaining materials to classmates and friends	331	1.00	5.00	4.21	1.06
Learner devises questions to help focus on reading while reading the learning materials	331	1.00	5.00	4.6	.70

Practice saying materials to myself over and over	331	1.00	5.00	4.39	.90
Even having trouble in learning materials, I do work without help	331	1.00	5.00	4.63	.73
When I become confused about learning materials, I try to figure it out	331	2.00	5.00	4.77	.55
If learning materials are difficult to understand I change the way I read them through	331	1.00	5.00	4.15	1.12
Read through class notes and course materials over and over	331	1.00	5.00	4.82	.53
Work hard to do well even if I do not like what I am doing	331	1.00	5.00	4.60	.73