

Exploring the Heublein Model to Resolve Postgraduate Student Dropout in a Malaysian Public University

Yuen Fook Chan¹, Kaarthiyainy Supramanian^{2*}, Zainudin Hassan³, Sanitah Mohd Yusof⁴

¹Faculty of Behavioural Sciences, Education and Language, HELP University
yuenfook.c@help.edu.my

²Faculty of Education, Universiti Teknologi MARA
kaarthyainy@uitm.edu.my

^{3,4}Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia
p-zainudin@utm.my
p-sanitah@utm.my

*Corresponding Author

<https://doi.org/10.24191/ajue.v20i2.26999>

Received: 1 November 2023

Accepted: 30 December 2023

Date Published Online: 30 June 2024

Published: 30 June 2024

Abstract: ‘University dropout’ is a term widely used to describe a phenomenon where students who have enrolled at a university decides to quit the programme before completing it. This could occur at any level such as a course/subject of study, a department, a faculty, a university, or the entire system of higher education. Students quit their studies due to a combination of factors. Theoretical work and empirical findings have already conceptualized numerous factors to the dropout issue, but little is known about the interplay of these factors especially those relating to the Heublein model. Hence, this qualitative study investigated PhD students’ dropout issue based on the model in a public university in Malaysia. The study obtained data from eight postgraduate students who quit their PhD programmes at a public university in Malaysia. The informants identified reasons relating to financial situation, counselling services, living condition, and their future plans. Most left at semester three after failing their defence of research proposal. A detailed analysis also revealed that eight PhD candidates also faced various socio-economic reasons at the time of their dropout. These factors corresponded to academic performance and socio-economic-factors, academic self-concept, and the intention to dropout. Such profiles identified in this study should be taken into consideration for targeted interventions in universities for dropout students.

1. Introduction

Students’ failure at academia has been labelled as dropout, departure, withdrawal, academic failure, non-continuance, and non-completion (Belloc, Maruotti, and Petrella, 2010) which refers to the exiting the formal academic journey. Obviously, this exit is not desirable for both the students and the university as student completion rate enhances the accreditation process and financial allocations of a university (Klein & Stocké, 2016). A university gains prestige and success when completion rates are high, while a low rate may even deter potential candidates from applying for admission as questions will be raised about the quality of education offered. As we know, the main aim of any institution is to retain their students (Tinto, 2006) and improve learning conditions to avoid student dropout (Bean, 1980). In fact, institutions motivate their students to complete their education within the time (Berger & Braxton, 1998; Cabrera, Nora, & Castaneda, 1993) or “graduating on time”. Yet the phenomenon of student dropout issue persists and has been continued to be discussed in higher education context to a certain extend (e.g. Hassan, Vincent, Mohd

Yusof, Chan, Ismail & Ismail, 2023a; Chan, Supramaniam, Ismail, Mohd Ismail, Hassan, & Mohd Yusof, 2023b; Oseguera, De Los Rios, Park, Aparicio & Rao, 2022) and Larsen, Kornbeck, Kristensen, Larsen & Sommersel, 2013). Hence, it is timely and important to address this issue at the postgraduate level from a theoretical perspective like Heublin's (2014).

Past literature does provide a series of frameworks to explain dropout phenomenon among students (Bean, 1980; Heublein, 2014; Flanders, 2017; Tinto, 1993). Among these scholars, Flanders (2017) has pointed out that the success of students in completing a gateway course during the first semester increases the possibility of them staying and continuing in the subsequent semesters. When a student chooses to leave a university and continue in another university, they are also considered a case of dropout. Sometimes, the dropout status may be temporary as a student could dropout from one university and re-enter another university to continue his or her study. Naturally, students may make change of their selection of programmes, courses, and university. Their experience of problems during their studies might affect their decision to continue in their study (Seidman, 2012). This study defines dropouts as students who had an initial educational goal to complete a doctorate degree, but who did not achieve it (Berger, Ramirez, & Lyons, 2012). In order to avoid controversial issues, this study limited the definition of dropout to first timers and not those who chose to return to their studies.

Past studies also showed that a mono-causal approach cannot adequately explain the phenomenon. Instead, a model consisting multitude of internal and external factors could provide a more comprehensive explanation (Klein & Stocké, 2016) to such a complex socioacademic issue. Scholars in the likes of Tinto (2006) also noted that despite numerous frameworks on retention, current academic and social programmes may not be adequate for university context. This has piqued the interest of the current researchers to further study the phenomenon due to their affiliations to the universities in Malaysia. The earlier study by Chan et al. (2023b) revealed that factors like financial condition, family commitment, counselling services and their future plan affected student decision to quit their higher education, but these have been studied from Tinto's theoretical lens. The study did not highlight variables such as personal effort and enthusiasm for learning (Tinto, 1975) which reflected that the participants did not perceive them as the key issues for ending their scholarly journeys. Undeniably, personal effort and enthusiasm are related to human learning experience and should be examined. There are not many studies that have been conducted based on Heublein model in Malaysian context to identify why students drop out from their universities. Due to this research gap, this study intended to provide an insight on the phenomenon of postgraduate student dropout based on the Heublein et al. (2014) model. Hence the following research questions are as follow: (1) to what extent financial situation, counselling services, living condition and future plans influenced postgraduate student's decision to drop out from their higher education, and (2) what are the roles played by the different parties to conceptualise effective strategies in addressing the dropout issues in postgraduate study?

2. Factors that Cause Students to become Dropouts

According to Heublein (2014) and Neugebauer, Heublein and Daniel (2019), almost one in every four students in Germany left university without completing their degree. This dropout rate is similar to other countries as estimated by OECD (2019). Dropout rates may be different across programmes, but it is most significant among STEM (science, technology, engineering, and mathematics) programmes. This may have negative impact on labour market. Hence, this development has triggered further interest among scholars to investigate the dropout causes in higher education to develop relevant strategies (Heublein, 2014; Neugebauer et al., 2019).

Key factors that contribute to dropout issue among students in higher education have been identified as socio-demographic factors, academic competence, motivation to study, social and academic integration at university and living conditions (Larsen et al., 2013), family background, personal characteristics, and prior schooling (Tinto, 2006). In addition to these factors, personal predispositions and study conditions at institutional level were two crucial factors that should not be underestimated (Heublein, 2014; Behr et al., 2020). In fact, the student integration model (SIM) from Tinto (1975) also showed that a multitude of factors prompted students to make decision to the decision to end their education.

Heublein, Hutzsch, Schreiber, Sommer and Besuch (2010) identified a series of factors such as unrealistic expectation, financial stress, failure in milestone assessment, low motivation, unsatisfied study condition, professional re-orientation, family and personal and issues. Among all these factors, low performance and motivation, and financial constraints were identified as the three key factors that cause the most dropout cases at higher education institutions. As identified in previous studies, the socio-economic status of the students is a critical factor (Robbins et al., 2004; Caldas & Bankston, 1997) that hindered student from completing their study. Meta-analysis carried out by Robbins et al. (2004) further confirmed the financial factor but apparently, socio-economic problems are not only related to financial constraints but also the low social status of their parents (Caldas & Bankston, 1997). Interestingly Robbin et al. (2004) argued that a lower socio-economic status related to a higher tendency to dropout among first generation university students. Thus, Robbins et al. (2004) and recently Zainudin et al (2023) have also suggested that a multidimensional model of multiple factors is needed to explain the dropout phenomenon.

In theorising the phenomenon, Heublein and colleagues (Heublein et al., 2010; Heublein et al., 2017) developed a model with three phases, namely (1) the pre-study phase, (2) the study phase, and (3) the decision to drop out phase, to describe the dropout processes among students. The pre-study phase described students' personal traits and background-characteristics that influenced their study condition. The study phase explained the interaction between internal factors such as study behaviours, study motivation and performance, and external factors such as living conditions and university counselling to comprehend how they affected students. Heublein et al. (2014) furthered the modelling on external factors related to students' financial situation, whether they had income, their living conditions, psychological support from friends/family. Obviously, a student's decision to dropout is seldom due to only a single reason, but rather the difficult decision is often made based on multiple factors. However, the external factors have not been explored in the Malaysian higher education context. A void persists in the individual narratives of the students involved. As the factors are time-variant (Klein & Stocké, 2016), the present adopted a qualitative approach to capture the subjectivity involved. One's subjective thoughts about their abilities may influence one's decision to dropout (Bean, 1985; Robbins et al., 2004) or to continue. Ultimately the intention to dropout can predict the attainment of learning goal of the students. On these premises, the following section presents the methodology of the study.

3. Research Methodology

This qualitative study applied the Heublein model to investigate the cluster factors of why postgraduate students dropped out from their PhD by Research Programmes at a public university. Purposive sampling was employed to select eight ($n=8$) PhD dropouts from the Faculty of Education. The criteria for selection of informants where they had to be a PhD student the Faculty of Education in the public university and had just quit within the semester. The interview questions were developed based on Heublein et al. (2014) dropout model that had been reviewed in this study. These interview questions have been validated by four senior lecturers from the same university who had each successfully produced at least one PhD graduate. An online semi structured interview was conducted through Google Meet to investigate their financial situation, counselling services offered to them, current living situation and future plans. The informants were contacted through email to get their written consent and were assured that no personal information would be revealed. The interview protocol was emailed to them two days prior to the interview session.

After the data had been collected, a constant comparative method was used to identify recurring themes and concepts. Constant comparative method is a process used in grounded theory study in the Glaser and Strauss tradition where the researchers sorted and organized excerpts of raw data into different groups of attributes and organized them in a structured way to formulate a new theory. In this study, the researchers first transcribed verbatim the interview data, i.e. quotes. Then, open coding was developed based on the data collected from the transcripts, and individual snippets were separated according to categories. Then, the researchers practised constant comparative method to compare snippets with snippets

and created various codes to connect them. After the open coding has been prepared, axial coding was developed to identify the connections between the different codes. The researchers compared codes with codes, and finally created categories that connected the codes. After the axial coding was prepared, the researchers continued with selective coding to identify the connections between categories. Finally, the researchers compared categories with categories, and created a core category to connect them. Undeniably, this constant comparison was able to analyse and explore the qualitative data in this study. From the themes and concepts that emerged from the qualitative data analysis, the researchers were able to conceptualise the postgraduate dropout findings in a public university in Malaysia and grouped the data accordingly to answer the two research questions in this study.

4. Findings And Discussion

Profile of Informants

The six female and two male informants came from various occupational backgrounds. They ages ranged from 30 to 53 years old, with most of them being married. Two were working with the Malaysian government agencies as a school improvement specialist coach and a university lecturer. The other six informants were working as a logistics coordinator, an NGO officer, a lecturer, digital marketers, and one was a housewife. Their years of work experience ranged from one to thirty years. Most informants indicated that they dropped out during their third semester, especially when they failed their Defence of Research Proposal (DRP) and the longest informant had stayed until his semester eight. Overall, most respondents have studied for one and a half years before they dropped out.

Research Question 1: To what extent the financial situation, counselling services, living condition and their future plans influenced postgraduate student's dropout in higher education?

Most of the postgraduate students are working adults and married, hence, there is no surprise they were faced with many challenges such as family commitment, work commitment, and financial constraint which affected their academic achievements (Abiddin & Ismail, 2011; Chan et, 2023). Among these issues, financial problem was most pressing.

4.1 Financial Situation

This study investigated how the financial situation affected students' decision to drop out from their PhD study. The interview findings showed that only four informants did not think that their financial situation was a factor.

I was financially stable as I was working as a lecturer and I got staff discounts to do my PhD in this university. Hence, financial constraints were not the major reason that I dropped out. – **Informant 2**

I was not having financial problem during my PhD study because I have some saving and I was financially stable. – **Informant 4.**

I was not having any financial problem during my PhD study. – **Informant 5**

I was a lecturer at a private college. During my PhD study, I have become a research assistant to a lecturer for roughly one and a half years, hence, my financial situation was not a major reason – **Informant 8**

However, the remaining four informants stated that they had encountered some financial difficulties as listed as follow:

Maybe it would be better if I had a scholarship. But still I might drop out due to I have no other sibling to look after my mother who was sicked during my PhD study. I was the only one who was not working at that time, and my mother was more comfortable to have me taking care of her. . . . Undeniably, I was not financially stable at that time. My mother was sponsoring my living cost. The scholarship that I received from Yayasan Negeri Sembilan was only just enough to pay the course fees– **Informant 1**

Yes, to a great extent financial constraint is the major reason that I dropped out from my PhD study.– **Informant 3**

I didn't want to continue my study because I cannot afford the fees and I did not think I could complete my study. Eventually it has become the reason I dropped out. – **Informant 6**

Yes, I was having financial constraints because I did not have a scholarship and I was not working. Hence, my major concern has shifted to find a job to support my family at that time. – **Informant 7**

Financial problems could hinder students from continuing a programme as tuition fee can become expensive and unaffordable (Sangodiah et al., 2015). Besides, students' mode of study is frequently related to financial assistance whereby full-time students usually receive better financial assistance, do not have major financial worries (Shariff, 2015) and can concentrate better. Half of them believed that scholarships would be a plus point for postgraduate students to reduce their financial burden and pursue their PhD journey. Hence financial aid could reduce the dropout rate in Malaysia.

4.2 Counselling Services

Counselling services indicate an influence on postgraduate students' decision to drop out of higher education. In the findings, all the informants did not acknowledge any counselling services offered at the faculty or university throughout their PhD studies. This notion indicated that counselling services should be implemented by universities to induce motivation and support among postgraduates. The quotations below show the informants' acknowledgement of the lack of counselling services provided by their university.

In fact, the findings of this study also indicated that none of the informants sought nor received any counselling services before making the final decision to drop out of their postgraduate studies. It is also mentioned that many were unaware of such services as the university.

No, I did not know there was any counselling service provided. – **Informant 1**

No, I only talked to my first supervisor and the postgraduate head before I decided to drop out. – **Informant 2**

No, I was not aware of any counselling services at the faculty. – **Informant 3**

No, I do not feel like I needed it. – **Informant 4**

I didn't see the need to get counselling service as I was clear with my decision to quit my study. – **Informant 5**

I felt like quitting was the right thing to do at the time. – **Informant 6**

Indeed, I did not aware any counselling services provided for students at the faculty or university. – **Informant 7**

In fact, I did not know to whom and where to seek for counselling services. – **Informant 8**

During the interviews, four of the respondents mentioned that counselling services are necessary to offer support for PhD candidates and this would reduce the dropout tendency.

If there is such a service to be given, I will attend the counselling service and maybe it will help with my situation. Sadly, there were no counselling services for postgraduate students at that time. – **Informant 3**

Yes, I believe it could probably help me to get back into the flow. – **Informant 6**

Yes, perhaps it could give me more options to consider. – **Informant 7**

Yes, maybe it might help. After I dropped out, I attended job interviews and they told me that a PhD in education management would give me better chance because I can work at both faculties of business and education. Hence, I think counselling might be helpful to stop me from dropping out. – **Informant 8**

On the other hand, the other half of the informants believed that offering counselling services will not change their decision to drop out as their personal problems “surpassed” any counselling aid, displayed in the excerpts below.

Maybe not, because I need to take care of my mother. In fact, I took 2 years leave to look after my mother until she recovered. – **Informant 1**

No, because I have determined to continue my studies in Art and Design, and not in education – **Informant 2**

I am not sure because the reason for my withdrawal was due to my personal health reasons and I was trying to reduce any stress factors. – **Informant 4**

I don't think counselling services will help because I was clear about my decision to withdraw.– **Informant 5**

Nevertheless, it is recommended that mental health professionals be appointed on campus to participate in ongoing professional development and receive relevant training on contemporary approaches for providing effective counselling and intervention strategies for postgraduate students with diverse personal issues (Ch'ng, Nor & Loh, 2023).

4.3 Campus Life and Living Conditions

Living conditions imply informants' accommodation and living style throughout their postgraduate studies. To see whether living conditions affected their decision to drop out of postgraduate studies, the researchers sought the informants' views of their accommodation on campus. It was revealed that most of the informants did not stay on university campus. A few informants withheld from sharing their opinions

as they were mainly instructed through online sessions due to the pandemic outbreak during their postgraduate study. The quotation below illustrates informants' notions of their views of campus accommodation.

I could not say much as I only came for the interview and the written test during the application period to join the PhD program. I did not stay or ever lived in the hostel in the campus. However, I did enjoy being around in the campus. – **Informant 2**

Five of the informants admitted that the new campus at the site of study was conducive and impressive for their PhD study even though they did not have the chance to stay in the hostel.

I was not accommodated at the hostel, but I did enjoy being around at the campus. – **Informant 3**

I have been here for quite some time, and I enjoyed studying at the campus even though I did not stay at the hostel. – **Informant 4**

Yes, the new campus looks impressive, but I did not stay at the hostel. – **Informant 7 and Informant 8.**

The findings also queried the informants about the living conditions in their houses while pursuing postgraduate study. Five informants shared their positive views, as many found their living conditions to be conducive and suitable for their study. Nevertheless, a few informants had a mixed experience towards the new campus and their accommodation at their rented houses. Their rented room was not conducive for study purposes, and they would have preferred to go to other places that were more conducive to study. The excerpts are the informants' responses towards their campus life and living conditions at their rented houses or own accommodation.

I did not like the new campus at (the current site), but I liked the old campus at (previous site) because there was a study room at the ground floor of the library that was opened 7 days and 24 hours. However, I did not stay at the university hostel by any chance. – **Informant 1**

I can't say much, but for sure as I wasn't around at the campus during my postgraduate study, and I did not stay at the hostel. – **Informant 5**

No, I did not feel connected to the campus. Furthermore, I did not stay at the hostel. – **Informant 6**

During MCO, I worked and studied at home where I found that my house was more conducive and convenience than the campus. – **Informant 2**

I rented a house and stayed there alone; the conditions were conducive for me. In my opinion, for working students we preferred to stay outside or at our own house. – **Informant 3**

I stayed at my own house in Tampin, Negeri Sembilan. It did not add up much to the cost of living as I have been working for almost 30 years and my salary was enough for my expenses including my study fees. – **Informant 5**

I rented a house and the condition was okay and conducive. However, I do believe that it is better to stay in campus so that we can get better learning facilities and opportunities like other postgraduate students. – **Informant 7**

My rented house was conducive, so I had no problem studying at home. Even though it added up the cost of living, but I rented a house with my husband as he supported the bills too. In my opinion, it doesn't matter wherever we stay when we do our postgraduate study – **Informant 8**

I stayed at a rented house in a flat at Section 6, Shah Alam. In my opinion, postgraduate students should stay at a place where they can perform their study whether inside or outside the campus. Staying at a flat does add up to the cost of living because I have my salary to cover it. – **Informant 4**

Undeniably, some rented rooms are not conducive for study purposes. However, most of the participants disagreed that living condition can become a reason for them to drop out from their study. Their opinions are as below:

My rented room's condition was not conducive to do my study. I shared a room with another person. Normally, I go outside when I want to do my study. I believe that working adult should stay outside the campus – **Informant 1**

I do believe that living condition does not influence my decision to drop out. – **Informant 2**

Although informants 5, 6 and 8 did not perceive that accommodation could be a reason for dropping out, two informants on the contrary found that it did affect their decision to end their study.

Yes, I do believe that because I stayed alone outside the campus, I feel lonely and I have to pay bills for all of the expenses which really has influenced my decision to drop out from my PhD study. – **Informant 3**

Yes, in a way it has affected my decision to drop out due to heavy expenditure on housing. I was paying for my rental house and my own house at the same time which both reached up to RM 4000 per month. – **Informant 4**

Overall, the research found that learning environments played a crucial role in student success. Several factors affected learning ability, including learning environment at home, the faculty and the availability of the learning resources. Students who study in a positive learning environment have been shown to be more motivated, engaged, and have a higher chance of success in their postgraduate study. On the other hand, students learning in poor environments which are dangerous, dirty, uncomfortable, loud, or full of distractions did not fare well. With this in mind, it is important to create a conducive lounge (Hendrix, 2019) or space for postgraduate students at the faculty.

5. Future Plans

In the findings, four out of eight informants stated their future plans were related to work purposes. Most informants at the Faculty of Education mentioned that they wanted to become a lecturer. This was the primary reason to pursue their postgraduate study. This indicated that pursuing postgraduate study would increase the chances for informants to get a better-paying job and secure their financial stability as a future university lecturer. However, after they encountered failure in their defence of research proposal, their changed the future plan. Three informants shared that their main intentions to drop out from their PhD study was to focus and prioritise their time with their families. The quotations below reflected the informants' view of their future plans.

I want to become a lecturer – **Informant 1**

Yes, I would like to get a stable and permanent job as a university lecturer. – **Informant 3**

Yes, my ambition is to become a lecturer and get a better-paying job. – **Informant 7 and Informant 8.**

However, four informants stated that their future plan was to focus again on their personal interest and not on their career development.

I wanted to get my PhD in Art and Design education that is more closed to my heart, so I chose to drop out from this PhD in Education program. – **Informant 2**

My future plan is to stay healthy and stress free for myself, and to have more time with my family, hence, I chose to drop out from this PhD in Education program. – **Informant 4**

I chose to drop out so that I can have more time to focus on my teaching responsibility at school and produce good students. – **Informant 5**

I decided to drop out because I wanted to focus more on personal growth and building better relationships with my family. Furthermore, I have health problem as I was diagnosed with mood disorder and adult ADHD. – **Informant 6**

Among these informants, five informants told that their personal plans changed *after* deciding to drop out from their PhD study. Three cited personal issues as reasons to end it.

My plan changed because my mother fell sick. I was planning to work for a few years to get the relevant experience because I decided to continue with my PhD study – **Informant 1**

Yes, my plan did change as I found that the approach in the Faculty of Education is different from the Faculty of Art and Design. Therefore, I wish to continue my PhD at the Faculty of Art and Design at the same university. – **Informant 2**

Yes, my plan changed after a few semesters in the PhD study especially during the pandemic time. – **Informant 3**

Yes, my plan changed after I failed in my defence of research proposal. I see that getting a stable job is more important than to do a PhD degree, because it can provide better support to my family. – **Informant 7**

Yes, my study plan changed because I worried my PhD in Education might not be recognised to join a business and management faculty after my graduation. Hence, I decided to drop out so that I can re-enrol in another PhD in Educational Management Program” – **Informant 8**

Research Objective 2: What are the roles played by the different parties to conceptualise effective strategies in addressing the drop out issues in postgraduate study?

1. Effective Strategies to address Postgraduate Dropout

The informants' responses during interview provided insights on strategies to address dropout issues among postgraduate students in Malaysia. The strategies are divided into four: informants' views on supervisors,

supervisees, graduate school, faculty and the university, and the Ministry of Higher Education (MOHE). Four informants voiced their opinions on the supervision process. They should execute excellent practices to guide supervisees. Moreover, they should understand the importance of building a good professional relationship. The excerpts below provide evidence of the abovementioned notions, including strategies for efficient supervision.

Strategies for Supervisors

The supervisors should understand supervisees' cognitive level, their knowledge level and their experience so that they can provide the most relevant guidance. – **Informant 1**

Supervisors must understand the research intention of the student, and don't try to impose their own research method onto their students' study. Understanding students' thinking and assisting students accordingly is very important in supervision. – **Informant 2**

Supervisors should make time for discussions with their supervisees. Some students have difficulty in contacting their supervisors as they tend not to reply, and some even do not provide feedback which makes students really upset and have the tendency to quit. – **Informant 3**

Supervisors should guide the students to graduate on time, The longer the students stayed in the program the more difficult for the students to finish their study. They should motivate the lagging students and provide good support perhaps. – **Informant 4**

Supervisor should guide students but at the same time, give them more freedom to find their own voice. – **Informant 6**

Supervisors need to know their students personally in order to have a good rapport between the supervisor and the supervisee.– **Informant 7**

Supervisors should give the freedom for the students to choose their own topics as they should just guide the students accordingly. – **Informant 8**

In fact, Chan et al. (2023) identified guidance and support from supervisors as an important factor to avoid students from exiting their programmes. Students too should play their roles as supervisees, investing time and effort to fulfil expectations. Most informants were aware of the sense of direction to finish their PhD study. Some suggestions by the informants are as follow.

Strategies for Supervisees

The supervisee should know the PhD journey and know what they are supposed to do. – **Informant 1**

The supervisees should find the right topic, right faculty and right supervisors to do their study. – **Informant 2**

Supervisee should meet their supervisors regularly and seek help from them. Students should have their inner will to push themselves to complete their study. They must do their study consistently and get assistance from supervisors, faculty, and the graduate school as well. – **Informant 3**

Supervisees should be able to manage their lives properly and be in a healthy state of mind and body. – **Informant 4**

It is important for a student to build his or her network of buddy so that they can seek help when face with problems. – **Informant 6**

No matter how, the student must love the field of study that he or she has chosen and must be financially stable and willing to take up any challenges ahead. – **Informant 7**

The most important thing is the supervisees must communicate with their supervisors from time to time. The PhD journey can be easy if the supervisees have a good communication with their supervisor. – **Informant 8**

Undeniably, candidates need to have easy access to and good communication with their supervisors (Shariff et al., 2015). Given that a large proportion of postgraduate students have experienced some degree of psychological distress during their candidacy, it is essential for them to cultivate a healthy sense of psychological well-being that would empower them to persist through challenging moments of academia and successfully complete their candidature (Ch'ng, Nor, & Loh, 2023).

Strategies for Graduate School, the University, and the Faculty

The interview data also showed that the informants agreed unanimously that the administration at the levels of graduate school, faculty, and university need to address the issue of PhD student dropout. They shared that graduate school should offer support services such as counselling for candidates to cope with stress, and financial support in the form of research grants and flexibility in payment of tuition fees. Five informants mooted a similar idea for the faculty to do so. Three informants articulated that motivational talks could be offered to PhD candidates. The following discussion looks at each category of administration.

Strategies for the Graduate School

Like other business organisations, institutions of higher learning must be concerned with the quality of the services offered to their customers, that is, students. Service quality can lead to excellence in education and can have lasting effects on the institutions and students. This can influence students' recommendations of their programmes to others, as well as their future monetary contributions in support of their institutions (Chong, 2002). Suggestions to improve the graduate schools have been identified as follow:

The graduate school should have an easy access information system and provide relevant research workshops from time to time to guide the postgraduate students. – **Informant 1**

The graduate school should organise more student activities to allow the PhD students to mingle together and to know each other – **Informant 2**

The graduate school should be able to detect the high dropout risk students to provide supporting service. Providing counselling service and support to some extent can help students to overcome their personal problems better. – **Informant 3**

The graduate should organise stress management courses for PhD students who have high stress. It is good to make known to the students because most of the times, the faculty did not tell what kinds of supports provided to students. – **Informant 4**

In fact, Informants 6, 7 and 8 shared the same opinion that the graduate school should provide a platform for students to learn research skills, monitor student progress and seek counselling services.

Their feedback can be deduced to include the need for continuous effective programmes, seminars, and workshops to improve the research process and procedures. Moreover, personal advisor/mentor should be easily reached, and supervisors need to improve their supervisory approach. There should be improvement in facilities and programmes to continuously motivate students (Mohd Isa & Ahmad, 2018).

Strategies for the University

Undeniably, providing effective resources and guidance to postgraduate students is primarily the responsibility of the institution. At the level of the postgraduate studies, students are expected to be independent with the support from the institution. By providing proper service and resources, the process of learning will be more eased (Abiddin & Ismail, 2011). The following strategies have been suggested by the informants during the interviews.

The university should conduct more research workshops for the students. Besides, it is important for the university to provide briefing during the road show and registration time. – **Informant 1**

Actually, it is also important to offer opportunities for postgraduate students to engage with other international students. – **Informant 7**

The university should provide some financial support to the postgraduate students and provide full information regarding their study in the university. The graduate school's website should be more informative to help the postgraduate students. Besides, the university should provide life skills, entrepreneur skills, survivor skills, and cooking skills so that postgraduate student can learn some of these skills to generate income during difficult times. – **Informant 3**

In fact, the university should support the postgraduate students with the research grants and not be biased to science and technology or certain groups. – **Informant 4**

There should be a flexible way to pay fees. For example, students can be allowed to pay their fees in three payments if they have financial problems. – **Informant 8**

The university should know how to assist the postgraduate students to find the right topic and supervisors. The students might not have any ideas of the supervisors and programs in the university. The university should provide some services in this aspect. – **Informant 2**

Universities should assist students to apply for and source funds, such as grants to finance their studies. The approach benefits the student in settling tuition fees and completing their education on time, while the university gains financially from fees paid in the form of grants (Nadeem, Palaniappan, & Haider, 2021)

Strategies for the Faculty

The informants voiced some concerns regarding the strategies that can be applied by the faculty. Ideally the faculty should provide briefing to students on how to fill out the learning journal in the first semester of the postgraduate study so that they will have a better picture on what to do

(Informant 1). Indeed, the faculty should also offer help to those who seem to “drown in their own research”. Besides providing research skills, the faculty should also offer motivational talks and thesis writing workshops. Motivation talks are important because student motivation fluctuates throughout the PhD journey as clarified by Informants 7 and 8. Furthermore, the most common reason for postgraduate students to drop out from the course is the lack of time, i.e. time management. Hence, there is a need for external motivation such as family and institution support and more exposure to online materials and database for research (Chopra & Syazwani, 2020).

Informant 6 stated the importance of empowering the students by giving them a sense of autonomy especially in their research. Besides, Informant 2 pointed out that: “the faculty needs to tackle students who came from different disciplines and match them with the right supervisors” to ensure a higher chance of success in supervision. This suggestion was also echoed by Informant 5 who mentioned that lecturers at the faculty should equip themselves with the latest information in the education field and have a good understanding of the current issues.

These findings seem to parallel the findings from earlier research by Priyadarshini et al., (2022) who reported that research skills, institutional support and self-management skills significantly influenced postgraduate students’ motivation to graduate on time. Furthermore, research skills were identified as the strongest predictor of motivation to graduate on time. Additionally, research skills mediated the relationships between institutional support, students’ self-management skills and postgraduate students’ motivation to graduate on time.

Strategies for the Ministry of Higher Education

It also requires combined efforts of various stakeholders at higher education institutions to provide the necessary support systems that ensure a greater sense of psychological well-being among postgraduate students on campus (Ch’ng, Nor, & Loh, 2023) However, postgraduate students are responsible for keeping their own candidature progress and psychological wellbeing. The Ministry of Higher Education (MOHE) is an integral part of the higher education ecosystem. It is tasked to generate first-rate thinkers, scholars, skilled and semi-skilled workforce for the growth of the nation. However, the government should not only allocate scholarships and grants to produce a talent pool of postgraduate degree holders to achieve its goals without considering their psychological needs (Ch’ng, Nor, & Loh, 2023). As government investment is high in the education sector, universities should maximise these areas to retain capable students and to boost revenue (Nadeem, Palaniappan & Haider, 2021).

In this study, five out of eight informants requested for appropriate financial assistance to help PhD candidates to overcome their challenges and hurdles during their journey. They suggested that providing financial aids through various strategies should be a priority. The excerpts below show some of the suggestions provided by the informants to be considered by MOHE.

I think that the MOHE should provide more scholarships to postgraduate students. – **Informant 1**

The MOHE should provide more scholarships and does not put an age limit for lecturers who are working in the university to apply for scholarship. Study leave and scholarship are useful to help lecturers who come in with a master's degree to obtain their PhD degree at the university. – **Informant 2**

It is essential for the MOHE to provide scholarships to postgraduate students because it really helps. – **Informant 6**

MoHE should provide more research grants to supervisors so that the lecturers can recruit their postgraduate students as a research assistant in the research project. With the research grants,

the postgraduate students can be supported financially and also have a chance to polish their research skills. – **Informant 8**

Besides, the informants also voiced their concerns for MOHE to offer career opportunities of postgraduates. Three informants mentioned that diversifying career opportunities should be prioritized with financial assistance. The excerpts below presented their opinions on this matter.

There is a need to diversify the career opportunities for postgraduates to study abroad and provide financial assistance to help students who are in need to further their study. – **Informant 6 and Informant 7.**

The Ministry of Higher Education should also market the postgraduate programs internationally to offer higher value of postgraduate study to students from other countries. Besides, it is also important to involve private universities with public universities to add value to the program for postgraduate students in our country. – **Informant 7**

In the rapid changing 21st century, the economic fortune of each country is increasingly determined by the quality of its national education and innovation systems. Each aspect of higher education's mission – teaching, research and supervision of postgraduate students is central to economic development and the future of the country. Higher education's most direct contribution to enterprise development is through the provision of high-quality graduate workforce from undergraduate and postgraduate programmes, which results in substantial knowledge transfer from higher education to enterprise. In future, higher education will need to be more proactive in commercialisation and knowledge transfer and will have to pursue this in collaboration with others in enterprise, public and private universities, and wider society. A renewal and transformation of the relationships between higher education and enterprise can position Malaysia at the leading edge in the competitive global environment (National Strategy for Higher Education to 2030 (2011: 31-32). However, a high dropout case will not augur well for the national agenda.

6. Conclusion

Students enroll in higher education programs to improve their knowledge and skills, and to obtain an academic qualification. In order to be successful in their study, students must play an active role so that they can perform well. However, they need to be given access to high quality teaching and learning resources, psychological support, and financial aids. All students expect to receive a high-quality academic experience to ensure their success in learning (Carter and Yeo, 2016). Undeniably, lecturers in higher education institutes in Malaysia are assessed by the Malaysian Qualification Agency on the quality of their teaching and supervision, and therefore many institutions are keen to recruit highly qualified lecturers to help students to achieve their full potential (Biermann et al., 2015). High quality teaching also involves using suitable teaching methods, having suitable and well-equipped classrooms, and making effective use of technology, which may influence both student learning and satisfaction (Munoz-Carril et al., 2021). However, we should not forget that students might need out-of-class academic support to achieve their learning goals. Besides, students also need to receive constant psychological support and financial aids to ensure a smooth and sustained sail of their postgraduate journey in higher education.

Moreover, the impression of students toward their university is formed based on individual expectations (Crisp et al., 2009). It is important that new students have a positive experience as soon as they arrive at the university. An effective orientation program will help new students to familiarise themselves with the available facilities and resources at the campus and allows them to meet with teachers, advisors, supervisors, staff, and other students to discuss various aspects of student life, including their study plan. A good orientation programs can enhance the learning confidence among new students and to help them tackle challenges and problems that may arise. Thus, all higher learning institutes should provide a good orientation programme for new students especially for those who choose to their postgraduate study

by research because they have limited chance to meet other lecturers and students. They might feel lost if they do not get the relevant information from the very beginning of their postgraduate study.

This research contributes to relevant literature by providing insights into postgraduate dropout phenomenon. It shed light on the external factors of higher education that contributed to their decision to end their scholarly journey. As with all research, this study did have some limitations to be acknowledged. The data was obtained through interviews from eight postgraduate students from a public university in Malaysia, so the findings may not be generalizable. Also, service quality, facilities, and organizational culture in public and private universities may be different, influencing students differently, hence, this study which was conducted in a public university is not generalisable to the private education sector. Besides, this study focused on PhD students so the findings of this study may not be applicable to other postgraduate students in other programs, master's degree study or other universities. Future research could be conducted in different contexts and with different categories of students. Since this study is qualitative in nature, hence, a mixed method research on postgraduate students' dropout study in future will provide a more comprehensive picture. The researchers in this study also would like to propose a longitudinal research design to capture how students' retention and expectations could change over time. Finally, a conceptual model may be reconfigured, with organizational identification or institution reputation as moderating constructs. It would be interesting to discover whether institution reputation is able to compensate for low service quality in teaching, supervision, and support services in maintaining overall satisfaction and success rate of postgraduate students.

7. Acknowledgement

Publication of this work was supported by HELP University, Malaysia [Publication Charge Support Grant 24-05-010]. Besides, we would like to thank the researchers from Universiti Teknologi MARA and Universiti Teknologi Malaysia for the collaboration in data collection and editing works of this paper.

8. Co-author contributions

Authors 1 and 2 are responsible for the conceptualization of research, theoretical framework, data collection and data analysis; Authors 3 and 4 are responsible for literature review, formatting of the paper, and instrumentation of the study.

9. References

- Abiddin, N. Z., & Ismail, A. (2011). Attrition and completion issues in postgraduate studies for student development. *International Review of Social Sciences and Humanities*, 1(1), 15-29.
- Bean, J. P. (1980). Dropouts and turnover: The synthesis and test of a causal model of student attrition. *Research in Higher Education*, 12(2), 155–187. doi:10.1007/bf00976194
- Belloc, F., Maruotti, A. & Petrella, L. University drop-out: an Italian experience. *High Educ* 60, 127–138.
- Behr, Andreas & Giese, Marco & Tegum, Herve & Theune, Katja. (2020). *Dropping out of university: a literature review*. 10.1002/rev3.3202.
- Bean, J. P. (1985). Interaction effects based on class level in an explanatory model of college student dropout syndrome. *American Educational Research Journal*, 22(1), 35–64. doi: 10.3102/00028312022001035
- Berger, J. B., & Braxton, J. M. (1998). Revising Tinto's interactionalist theory of student departure through theory elaboration: Examining the role of organizational attributes in the persistence process. *Research in Higher Education*, 39(2), 103–118. doi: 10.1023/A:1018760513769
- Berger, J. B., Ramirez, G. B., & Lyons, S. (2012). Past to present: A historical look at retention. In A. Seidman (Ed.), *College student retention: Formula for student success* (2nd ed., pp. 7–34). New York, NY: Rowman & Littlefield. doi: 10.1353/rhe.2006.0017

- Biermann, A., Karbach, J., Spinath, F.M. and Brunken, R. (2015), € “Investigating effects of the quality of field experiences and personality on perceived teaching skills in German pre-service teachers for secondary schools”, *Teaching and Teacher Education*, Vol. 51, pp. 77-87, doi: 10.1016/j.tate.2015.06.005.
- Carter, S. and Yeo, A.C.M. (2016), “Students-as-customers’ satisfaction, predictive retention with marketing implications: the case of Malaysian higher education business students”, *International Journal of Educational Management*, Vol. 30, No. 5, pp. 635-652, doi: 10.1108/IJEM-09-2014-0129
- Caldas, S. J., & Bankston, C. (1997). Eff ect of school population socioeconomic status on individual academic achievement. *The Journal of Educational Research*, 90(5), 269–277. doi:10.1080/00220671.1997.10544583
- Cabrera, A. F., Nora, A., & Castaneda, M. B. (1993). College persistence: Structural equations modelling test of an integrated model of student retention. *The Journal of Higher Education*, 64(2), 123–139. doi:10.2307/2960026
- Chan, Y. F., Supramaniam, K., Ismail, I. S., Ismail, H. M., Hassan, Z., and Yusof, S. M. (2023b). Tinto’s Explanatory Model of The Dropout of Doctorate Students in a Malaysian Public University. *Asian Journal of University Education (AJUE)*, Volume 19, Number 3, July 2023. <https://doi.org/10.24191/ajue.v19i3.23494>
- Hassan, Z., Vincent, M. L. T., Yusof, S. M., Fook, C. Y., Ismail, I. S., & Ismail, H. M. (2023). Postgraduate Dropout Issues at a Public University in Malaysia. *Asian Journal of University Education*, 19(4), 706-716.
- Crisp, G., Palmer, E., Turnbull, D., Nettelbeck, T., Ward, L., LeCouteur, A., Sarris, A., Strelan, P. and Schneider, L. (2009), “First year student expectations: results from a university-wide student survey”, *Journal of University Teaching and Learning Practice*, Vol. 6, No. 1, pp. 11-26, doi: 10.53761/1.6.1.3.
- Chong, Y. (2002). *The Service Quality of UPM*. School of Graduate Studies. Unpublished Masters thesis. Universiti Putra Malaysia, Malaysia.
- Chopra, A., & Syazwani, A. (2020). Investigating the common factor of drop out based on learner’s perspective and dropout rate in MOOCs in Malaysia. *International Research Journal of Engineering and Technology (IRJET)*, 7(03), 5317-5326.
- Ch’ng, B., Nor, M. M., & Loh, S. C. (2023). Psychological Well-being and Postgraduate Students: Recommendations for Higher Education in Malaysia. *International Journal of Education, Psychology and Counselling (IJEPC)*, 8(49), 197-210. DOI 10.35631/IJEPC.849014
- Flanders, G. R. (2017). The effect of gateway course completion on freshman college student retention. *Journal of College Student Retention: Research, Theory & Practice*, 19(1), 2-24.
- Hendrix, E. (2019). *How your surroundings affect the way you study*. UCAS. rm.help.edu.my
- Heublein, U. (2014). Student drop-out from German higher education institutions. *European Journal of Education*, 49(4), 497–512. <https://doi.org/10.1111/ejed.12097>
- Heublein, U., Ebert, J., Hutzsch, C., Isleib, S., König, R., Richter, J., & Woisch, A. (2017). Zwischen Studiererwartungen und Studienwirklichkeit: der Studienabbrecherinnen und Studienabbrecher und Entwicklung der Studienabbruchquote an deutschen Hochschulen [*Between study expectations and reality: dropouts and development of dropout rates in German universities*]. DZHW: Forum Hochschule.
- Heublein, U., Hutzsch, C., Schreiber, J., Sommer, D., & Besuch, G. (2010). Ursachen des Studienabbruchs in Bachelor- und in herkömmlichen Studiengängen: Ergebnisse einer bundesweiten Befragung von Exmatrikulierten des Studienjahres 2007/08 [*Causes of dropout in Bachelor and conventional courses: Results of a nationwide survey of exmatriculated students in the academic year 2007/08*]. HIS: Forum Hochschule.
- Klein, D., & Stocké, V. (2016). Studienabbruchquoten als Evaluationskriterium und Steuerungsinstrument der Qualitätssicherung im Hochschulbereich. In D. Großmann & T. Wolbring (Eds.), *Evaluation*

- von Studium und Lehre: Grundlagen, methodische Herausforderungen und Lösungsansätze (pp. 323–365). Wiesbaden: Springer Fachmedien.
- Larsen, M. S., Kornbeck, K. P., Kristensen, R. M., Larsen, M. R. & Sommersel, H. B. (2013). *Dropout phenomena at universities: What is dropout? Why does dropout occur? What can be done by the universities to prevent or reduce it? A systematic review*. Copenhagen: Danish Clearinghouse for Educational Research, Aarhus University. Retrieved on May 17th 2018 from: https://pure.au.dk/ws/files/55033432/Evidence_on_dropout_from_universities_technical_repon
- Munoz-Carril, P.C., Hernandez-Selles, N., Fuentes-Abeledo, E.J. and Gonzalez-Sanmamed, M. (2021), “Factors influencing students’ perceived impact of learning and satisfaction in computer supported collaborative learning”, *Computers and Education*, Vol. 174, 104310, doi: 10.1016/j.compedu.2021.104310.
- Mohd Isa, P., & Ahmad, Y. (2018). Scrutinising the issues and challenges faced by postgraduate students: An effort to design specific programs to inculcate research culture. *Journal of Administrative Science*, 15(1).
- Nadeem, M., Palaniappan, S., & Haider, W. (2021). Impact of Postgraduate Students dropout and delay in University: Analysis using machine learning algorithms. *International Journal*, 10(3). <https://doi.org/10.30534/ijatcse/2021/461032021>
- National Strategy for Higher Education to 2030 (2011). *Report of the Strategy Group*, January 2011. ISBN – 9781406425420. [chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://hea.ie/assets/uploads/2017/06/National-Strategy-for-Higher-Education-2030.pdf](https://hea.ie/assets/uploads/2017/06/National-Strategy-for-Higher-Education-2030.pdf)
- Neugebauer, M., Heublein, U., & Daniel, A. (2019). *Higher education drop out in Germany: Extent, causes, consequences, prevention*. *Zeitschrift für Erziehungswissenschaft*, 22, 1025–1046. <https://doi.org/10.1007/s11618-019-00904-1>
- Oseguera, L., Rios, J. D. L., Park, H. J., Aparicio, E. M., & Rao, S. (2022). Understanding who stays in a STEM scholar program for underrepresented students: High-achieving scholars and short-term program retention. *Journal of College Student Retention: Research, Theory & Practice*, 24(3), 773–809.
- OECD (2019), *Social Expenditure Update 2019, Public social spending is high in many OECD countries*, OECD Publishing, Paris.
- Robbins, S. B., Lauver, K., Le, H., Davis, D., Langley, R., & Carlstrom, A. (2004). Do psychosocial and study skill factors predict college outcomes? A meta-analysis. *Psychological Bulletin*, 130(2), 261–288. doi:10.1037/0033-2909.130.2.261
- Priyadarshini, M., Gurnam, K. S., Hoon, T. S., Geethanjali, N., & Fook, C. Y. (2022). Key Factors Influencing Graduation on Time Among Postgraduate Students: A PLS-SEM Approach. *Asian Journal of University Education*, 18(1), 51-64. DOI: <https://doi.org/10.24191/ajue.v18i1.17169>
- Sangodiah, A., Beleya, P., Muniandy, M., Heng, L. E., & Ramendran, SPR. (2015). Minimising Student Attrition in Higher Learning Institutions in Malaysia using Support Vector Machine. *Journal of Theoretical & Applied Information Technology*, 71(3). 377-385
- Shariff, N. M., Ramli, K. I., Ahmad, R., & Abidin, A. Z. (2015). Factors contributing to the timely completion of PhD at the Malaysian public higher educational institutions. *International Journal of Humanities Social Sciences and Education (IJHSSE)*, 2(1), 256-263.
- Seidman, A. (2012). Taking action: a retention formula and model for a student success. In A. Seidman (Ed.), *College student retention: Formula for student success* (2nd ed., pp. 267–284). New York, NY: Rowman & Littlefield
- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition*. (2nd Ed). Chicago: University of Chicago Press.
- Tinto, V. (2006). Research and practice of student retention: What next?. *Journal of College Student Retention: Research, Theory & Practice*, 8(1), 1–19.

- Tinto, V. (1975), “Dropout from higher education: A theoretical synthesis of recent research”, *Review of Educational Research*, Vol. 45 No. 1, pp. 89-125, doi: 10.3102/00346543045001089.
- Zainudin, H., Vincent Tan, M. L., Sanitah, M. Y., Chan, Y. F., Izaham, S. I., Hamidah, M. I. (2023). Postgraduate Dropout Issues at a Public University in Malaysia . *Asian Journal of University Education (AJUE) Volume 19, Number 4, October 2023. DOI: <https://doi.org/10.24191/ajue.v19i4.24678>*