# Postgraduate Dropout Issues at a Public University in Malaysia

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Abstract: The issue of postgraduate dropout is a global concern as it constantly occurs causing the loss of valuable human capital and there is no exception in Malaysia. Hence, there is a need to explore the factors of dropout based on the genuine experience of postgraduate students to understand the underlying issues. Basically, this study focused on the academic and social issues concerning the reasons why postgraduate students dropped out from their study. This study adopted a qualitative research method where the data was collected through semi-structured interviews. The four purposively selected informants had already dropped out of their Masters and Doctoral degree programmes from a public university in Malaysia. This study found that there were academic issues related to supervision such as postgraduate students lacked experience and knowledge in doing research and academic writing. Conflicts have been identified with supervisors due to different expectations between supervisors and students. The study found that students expected to receive full guidance from supervisors, however supervisors perceived students as immature and expected them to be more independent in their study. This study will provide a basis for the Ministry of Higher Education to solve the dropout issues identified and develop some relevant policies to overcome this issue. In fact, constant effort is needed for the university to ensure postgraduate students were well equipped with necessary academic skills to complete their postgraduate study.

Keywords: Academic Issues, Dropout, Postgraduate Study, Social Issues

# 1. Introduction

Dropout or attrition is a pertinent and crucial issue in many higher education institutions around the world and it is a challenge for higher education institutions to retain the student enrolment until completion. Thus, this issue has indicated that there remains a need to identify the factors that have caused students to drop out before completing their tertiary education (Nurmalitasari et al., 2023). Undeniably, postgraduate study is different from undergraduates as students are expected to have their maturity, skills, and expectation to be independent in their study. Studies on the journey of postgraduate students identified many challenges faced by the students in research as they needed consistent assistance and acquire the research skills to graduate on time (Priyadarshini et al., 2022; Vähämäki et al., 2021; Sidhu et al., 2023). In fact, postgraduate students encountering many difficulties in academic research and writing is a global and universal issue even though they are expected to be independent and must have acquired sufficient skills and content knowledge to complete their studies (Hoon et al., 2019).

In fact, a successful postgraduate journey has its connection to academic and social issues and its relationship between supervisors and supervisees. Basically, a positive relationship between supervisor and supervisee would lead to progressive result and successful completion of the student journey. Vähämäki et al. (2021) who studied supervisees' perspectives identified some important factors of supervision such as the level of trust on supervisors and the quality of supervision in terms of knowledge and skills in supervision, the need to be appreciated by the supervisors, and good relationship between both parties. Based on this argument, this study investigated the academic and social issues that could lead postgraduate students to make the decision to drop out of their postgraduate studies in Malaysian higher education context. Hence, the objectives of this study are (1) to investigate the academic issues which have caused postgraduate students to drop out of their study, and (2) to investigate the social issues which have caused postgraduate students to drop out of their study.

#### 2.0 Student Integration Model

One most profound theoretical model on dropout issue at tertiary level is the Institutional Departure Model by Vincent Tinto which highlighted the importance of the social and academic systems (Tinto, 19903). Tinto believed that students need to be academically and socially integrated in the institution so that they will be able to fit in and develop a sense of belonging to complete their study.



Fig 1. Tinto's Institutional Departure Model (Tinto, 1993, p. 114)

Tinto used the term "integration" to describe the internalisation process where an individual integrates and incorporates the values and norms of the college environment into his or her own value system (Tinto, 1993). As students are integrated into the academic and social system of the institution, they will further develop a new goal and commitment which will ensure the persistent and constant enrolment in the subsequent semester. Tinto (2010) explained that it is important for students to get acquainted and know people to develop the sense of belonging and social identity which refers to the acknowledgement by the social community. The opposite is isolation where students might have difficulties to adjust themselves and later this may lead to withdrawal or dropout. In fact, the opposite of persistence is the voluntary decision to drop out which indicates unsuccessful integration into the academic and social system of the institution.

#### 3.2 Academic Issues

Sidhu et al. (2023) who conducted a study on postgraduate students in a private university in Selangor found that their motivation source was related to their goals for future career development and own self-fulfilment. The intention for advancement was the main factor for pursuing postgraduate education. In fact, the academic experience for postgraduate students is totally different compared to diploma or bachelor's degree students. The nature of postgraduate study requires students to be "attached" to a lecturer as their supervisor and they must have acquired a certain level of knowledge and experience in conducting research. Since most postgraduate students' target is to have their theses completed and to graduate on time (Priyadarshini et al., 2022), their competencies might affect their own beliefs of completing the tasks required for a doctoral study (Castelló et al., 2017). Once they have enrolled into the postgraduate study, the students need to be ready with knowledge to conduct their research. Chan et al. (2023) conducted a study in a public university in Selangor and found that most of the postgraduate students did not have issues in academic writing as they had the research skills and writing skills to complete their study. On the contrary, Supramaniam et. (2020) disclosed that neophytes in research negotiated meaning at different levels of discourses e.g., written and spoken and acted according the demands of the discourses, to tasks. The social sphere, for example the defence of proposal, was reported as the most challenging as their participation was regulated by expert practices. The researchers underlined that neophytes' participation was influenced by their specific disciplinary knowledge requirements and unless they fulfil them, they will journey towards success will be more challenging. For example, they are expected to construct the statement of problem section for thesis. This is a challenging task even for those who are good in the target language unless the supervisor is able to teach them.

Supervision is very crucial because it involves the academic expectations between students and supervisors. A factor in postgraduate student supervision identified by Sahar et al. (2022) was related to the influence of culture. Students who have experienced didactic, traditional, and teacher-centred educational background their entire academic lives would face difficulties to adapt to the expectation to be independent scholars. Students need to adapt to the different academic experiences and no longer depend on lecturers as they had done during their bachelor's degree. Upon beginning the journey in doctoral degrees, students are first required to choose their supervisors and the criterion of selection was mainly based on the supervisor's background in academic, work ethics and style of supervision as there are supervisors who would guide well and there are those who would expect students to work independently. There are students who can work independently and are self-directed, and on the contrary, there are students who are dependent and require constant and close guidance and supervision from their supervisors (Syed Mohamed et al., 2020).

Sahar et al. (2022) conducted a study on supervisors in a public university in Malaysia and found that supervisors tend to implement a transitional continuum model of supervision which starts with linear and structural approach as students require more close monitoring on the progress due to the lack of practical research experience or language proficiency where these students are known to have struggled with the academic writing and to adopt the holistically approach which is the other end of the continuum where students are more independent. In holistic approach, students are expected to learn collaboratively as supervisors have established the trust and confidence as students have acquired sufficient knowledge and research skills resulting in minimum supervision required. Indirectly, the study suggests that the competency or the knowledge and skills acquired by the students dictate the supervision approach by the supervisors. Conversely, the supervisors do have their own challenges as they have the expectations and problems when their students have limited knowledge in research and skills to design their own study. They constantly have to adhere to other work commitment and job responsibilities such as administrative and organisational requirements which indeed is demanding (Privadarshini et al., 2022). Moreover, Oparinde (2021) reflected his doctoral journey with two experienced supervisors where he constantly received constructive feedbacks on his writing. The experience of postgraduate study of Oparinde made him believe that a supervisor should not just teach academic writing, but also involve students in the process of collaborative effort to construct new knowledge. Hence, it requires effort from both postgraduate students and supervisors to work together in a postgraduate study.

3.3 Social Issues

# 3.3.1 Students and Supervisor's Relationship

In the socialisation process involving doctorate students, relationship with a supervisor is a critical factor especially when there exists minimal communication with the supervisors (Castelló et al., 2017), referring to poor relationship with the supervisors. This could cause students to feel isolated as exemplified by the respondent in the mentioned study earlier. The student described the experience of being abandoned as he felt the supervisor did not really bother about his work while another respondent experienced getting into an argument with the supervisor and felt that his work was not valued and appreciated (Castelló et al., 2017). Oparinde (2021) used auto-ethnography approach to reflect his own experience of having a poor relationship with the main supervisor. He also had a co-supervisor who was able to collaborate with him, hence preferred working with his co-supervisor on his research project. Regardless of any situation, Oparinde (2021) identified communication as the important component for effective supervisor-student relationship. Sahar et al. (2022) agrees in terms of the quality of relationship between students and supervisors, whereby it is impersonal and more professional.

In relation to Tinto's Institutional Departure model, the feeling of loneliness or being left alone without supervision in postgraduate students' experience is an indicator of being excluded and the students may not feel a sense of belonging. It is also found that the implication from the quality of the relationship affects the self-confidence of postgraduate students who expect responses from supervisors made available in the forms of answering given questions, giving feedback on the writings, and reading the draft sent. Otherwise, they end up having a notion that the supervisors do not care about their study, and they feel helpless (Vähämäki et al., 2021). As mentioned earlier, there are expectations from neophyte postgraduate students where they expect full guidance and practical advice from their supervisors. On the other hand, supervisors expect to receive doctoral students who are matured, independent, familiar, and know their responsibilities as a researcher required academic conducts. Priyadarshini et al., (2022) rightly points to the need to develop interpersonal communication skills and positive relationship between supervisors and postgraduate students. Chan et al. (2023) found that supervision as one complex and demanding multidimensional task between postgraduate students and supervisors which positive relationship is defined by the support or guide provided. On the contrary, negative relationship arises when there exists conflict of interest in the topic and research approach, when both have different opinions and expectation, then both supervisors and postgraduate students are not in alignment.

# 3.3.2 Peer Relationship

Undergraduate students are usually of the same age and may attend the same classes. Postgraduate students are of different ages, fields of work and commitment, which might limit their socialisation. Moreover, they may have minimum subjects and focus more on research work. Thus, there is tendency for postgraduate students to feel isolated. Hence, they have weaker sense of relation and opportunity to establish communication with their university peers (Morelli et al., 2022). According to Morelli et al. (2022), students with established positive social relationships with peers experience better opportunity to concentrate on their study and to be able to seek help upon encountering challenges. In a way this acts as a protective factor in the retention of students. Morelli et al. (2022) found that students with fewer friends and low self-regulated self-efficacy, which refers to poor control of their study and low motivation, pose a higher risk of dropping out from university. In relationship with peers, Chan et al. (2023) found that positive relationship reflects the support and assistance given, while the negative relationship relates to the individual preference like not being able to cooperate with others, and the reality of married students to prioritise the family more than peers.

# 2. Methodology

This qualitative study used semi-structured interview as a research instrument to enable the researchers to obtain in-depth information and evidence. The method offered an advantage of being flexible and adaptable to the questions asked during the interview (Ruslin et al., 2022). This study was conducted on drop out postgraduate students from the Social Sciences and Humanities Faculty in a public university in Malaysia, which was referred to as University A. The interview protocol was developed parallel to the purpose and objectives of this study. The interviews were conducted within a month and each interview was recorded. Each session lasted for about an hour. The participants were informed before the interview that the session would be recorded. They agreed to voluntarily participate in the interview, and their identities were kept anonymous. This study applied a purposive sampling method. The data of the students who fit the criteria was provided by the university office and the data was sorted out according to the number of years spent before their withdrawal. as the participants selected had dropped out of postgraduate study while they were pursuing their Master or Doctoral degree at University A. Initially ten students from the list were contacted through phone calls, however, only four students finally agreed and were willing to participate in the interview session. This could be due to dropout being a sensitive issue (Nurmalitasari et al., 2023), and causes high level of stress and low self-esteem (Syed Mohamed et al., 2020). Table 1 provides the background information of these four selected participants of this study. They were in their respective programmes for at least after two years.

Participants	Gender	Marital Status	Age	Occupation	Level	Duration of study
Participant 1 (P1)	Male	Married	66	Retiree	Master	4 years
Participant 2 (P2)	Female	Married	37	Teacher	PhD	3 years
Participant 3 (P3)	Male	Married	39	Freelance	PhD	2 years
Participant 4 (P4)	Male	Married	37	Teacher	PhD	2 years

Once the interview dates were set, two participants chose face-to-face interviews while the other two chose Google Meet platform. Before the interview sessions started, the purpose of the study

was explained, and consent forms signed. In preparing the data for analysis, the interview recordings were manually transcribed and read thoroughly once while checking with the recording again to ensure nothing was left out. Each transcript was labelled as Informants One to Four as names of the participants remain anonymous. Then, the transcripts and recordings were sent to the participants via email to check the accuracy of the transcripts and to obtain their agreement on the use of the transcripts for the study. Finally, all the four participants checked the relevant remarks that there were no changes required and gave their permission to use their transcripts. The finalised transcripts were read twice before commencing the coding process and thematic analysis.

# 3. Findings

The purpose of this study was to investigate the experiences of postgraduate students who had dropped out from their programmes. The ensuing discussion is carried out in relation to academic and social issues.

# 3.1 Academic Issues of Postgraduate Students

All the participants agreed that academic issues is one of the reasons they decided to drop out of their postgraduate studies. They were satisfied with their academic goals when they first enrolled in their postgraduate programmes. All four participants shared a similar goal which is to enhance their knowledge in their respective areas of interest.

The participants acknowledged that they faced many challenges related to their academic writing because they do not have the experience in research and academic writing. However, none of the participants mentioned about academic issues in conducting their specific research as they dropped out before the proposal defence. They managed to complete until Chapter Three but no one entered the proposal defence stage. There are various reasons. For example, Participant 2 had encountered confident crisis to complete her study due to the feedback she received from the supervisors.

## ... but then I got a lot of bad remarks from the, the, the lecturers. (P2).

Participant 3 declared he had a "serious language issue" as he is not proficient in English. Similarly, Participants 1, 2 and 4 admitted that they depended on their supervisors as they had problems in academic writing.

My thesis writing skill was not good, even I did my master study but to start writing a PhD thesis for the first time, it is not easy because I got no experience (P4).

Participants 1, 2 and 4 did not "admit" that they had problems in academic discourse. They did not see it as the cause of their failure in their postgraduate study.

The second issue identified was closely related to supervision. Participant 1 felt that he was not given the proper guidance as he had expected. He was expecting the supervisor to guide and provide the ways to obtain the needed resources for his study. Hence a sub-theme emerged from the interview analysis that showed that there was a conflict between the postgraduate students and their supervisors. Participant 1 had an issue with the supervisor as he had a research topic which was not of the interest of his supervisor. He dad considered the topic as containing sensitive issues but for the participant, it was important pursue it to answer the questions he had.

...the disagreement with my supervisor because along the way, some, some, uh, points I raised in the, in the thesis, that is mm-hmm due to the disagreement from my supervisors. So, I don't know how to, how to get through it." (P1).

Both student and supervisor could not come to an agreement, and it had caused the student to drop out of his postgraduate study because he finally gave up.

So, I give up. I don't want to quarrel with him. Since l can't do this, I don't feel I can go, go ahead with the project" (P1).

However, Participant 4 had a different experience,

She always read my drafts and write comments in detail, so I know the problem with my writing." (P4).

Furthermore, Participant 4 found that his supervisor was very supportive and helpful in providing the assistance he needed. However, consequently he dropped out because of other reasons that was not related to academic and supervision issues.

The third issue was related to the expertise of the supervisors. Participant 3 had a problem as he had two supervisors, and both supervisors were from different fields of study. One was from education psychology and the other one, computer sciences. Participant 3 completed his master's in Computer Sciences and pursued his PhD in Psychology. The issue arose when there was disagreement between the two supervisors

My supervisors cannot really assist me ..., my research background before this was... computer science ... first, uh, supervisor, uh, uh, child education, .... So, for me, very, very tough for me to swift from computer science to social science" (P3).

The case exemplified that supervisors are unable to provide the necessary assistance to their students due to their different fields of study. The mismatch causes much difficulties students. Furthermore, the participant himself was from a different academic background (i.e. computer Science) which made his journey very difficult.

## 5.2 Social Issues of Postgraduate Students

Besides academic related issues, there were a few themes discovered in relation to social issues. The first was related to the relationship between students and supervisors. Participants 2, 3 and 4 admitted that they had a good relationship with their supervisors. However, Participant 1 had a rather different response compared to the others. He dropped out because of the strained relationship with his supervisor. There was "*little communication*" (P1) between him with his supervisor. A clear issue is Participant 1 was in need for assistance and guidance from his lecturer, but it was not as what he had expected.

..he is always available, but the assistance l received all this while is always did not meet my expectation. Always run short of my expectation" (P1).

The supervisor was physically present, which indirectly indicated his responsibility towards his students. Yet Participant 1 was dissatisfied:

I always asked for his advice. It is just very simple answer that I received. Just go ahead, do the three first three chapters ... then, I request any reading materials, maybe you can suggest or whatever... No, he just says go to whatever way you want to read, ... I'm expecting something more real, more concrete, more accurate ... "(P1).

Both students and supervisors had expectations and it seems that the student wanted more constructive guide while the supervisor expected the student to be independent. In this case of the PhD student, the supervisor could have expected him to be independent and matured enough to deal with the abundant of resources available especially the online materials.

Moreover, for Participant 1, the relationship with his supervisor was more of a '*formal contact*" (P1) and only for the purpose of supervision.

#### When we meet, we talk about the project. I mean, we didn't talk about other things (P1).

Indeed, a good relationship between student and supervisor was important especially in establishing an effective communication to achieve expectations. The implication from such relationship will cause students to feel alienated, and loose interest. In due time, it could lead to drop out.

Participant 4 did not have much have issues with his supervisor, but he stated that there was a boundary in his relationship with his supervisor.

I don't remember having any conflict or bad experience with my supervisor. ... she is a lady, and I am the opposite gender, so I believe we were more concerned of taking care of the distance between us, therefore we make our relationship as professional possible. It is ... when you are on opposite gender, there are ethics and religion to take care ... however, I think being of opposite gender is just a small issue (P4).

Participant 4 raised the issue of opposite gender and the need to remain professional within the perspective of value in Malaysia. It is particularly important when it was related to religion. However, he was aware that gender was not a hurdle for his study.

Another type of relationship investigated in this study was related to peers. All the participants admitted that the relationship with their peers has no effect on the consideration to drop out. Participant 1 told that he did not have much discussion with peers and the relationship with them was "not very close" (P1). The reason he mentioned this was probably due to the age gap "*as he had already retired,* 

however his course mates were all young men and ladies. However, I don't find there's a big gap there to communicate (P1). Undeniably, the age gap has caused a lack of communication with his peers even though they were in the same programme. On the contrary, Participant 3 mentioned he did have a close friendship but it was just restricted to classroom setting as he spent more time with his family. However, his friends did give him "good cooperation" (P3). Participant 4 also echoed the same by saying that he "... didn't get to meet many friends" (P4). Consequently, he has to rely more on his supervisor for assistance. However, it was not the reason for Participant 4 to drop out from his postgraduate study. Overall this means that the participants' relationship with their peers did not influence their decision to drop out.

## 6. Discussion

This study investigated academic and social issues which led to postgraduate students' dropout of their postgraduate study. Overall, the findings showed that academic issues were the major reason for the postgraduate students to dropout, while social issues did have some impact.

#### 6.1 Academic Issues Experienced by Postgraduate Students

Generally, all the participants were aware of their initial goal of pursuing their postgraduate study which is for career development and personal satisfaction. This finding is similar to the study by Sindu et al. (2023) who studied postgraduate students who faced difficulties and challenges in academic writing. They demanded support and assistance especially in producing academic writing (Priyadarshini et al., 2022; Vähämäki et al., 2021; Sidhu et al., 2023). Hoon et al. (2019) found that the main challenge for postgraduate students was to acquire the necessary skills to conduct their research to complete thesis writing (Priyadarshini et al., 2023). The experience of students losing confidence and low motivation asserts the need for postgraduate students to be competent in order to gain self-belief which affect the capacity to fulfil the task required (Castello et al., 2017). This study identified that postgraduate students demanded research knowledge and skill, language proficiency to complete their study and acquisition of theses abilities are essential. On the contrary, the finding of this study contradicts Chan et al. (2023) which identified academic writing as not an issue for postgraduate students to drop out. This shows that the reasons for postgraduate dropout issues may differ according to institutions.

Supervision is one issue which could lead to dropout issues. The findings in this study is supported by Sahar et al (2022) who explained that the influence of previous learning experience of traditional and teacher-centred method made them more dependent on their supervisors. Inadvertently this posed more difficulties in adapting themselves to independent research at the postgraduate level. Syed Mohamed et al. (2020) explained that there are supervisors who will assist students and those who expect their students to be independent researchers, which is against the expectation of the students. Such dependent students would require structural approach as Sahar et al. (2022) describe the requirement for constant monitoring on their research progress due to their lack of research knowledge of research and low language proficiency. Oparinde (2021) agrees that supervision involves constructive feedbacks and collaborative effort between supervisor and student as it is not just about writing academically but experiencing the process to construct new knowledge. Priyadarshini et al. (2022) unveiled that normally supervisors have many other commitments and responsibilities which require their attention, hence it is good if the institution can provide the support needed by the postgraduate students as for example organising research workshop to provide knowledge in a constant manner.

An issue identified in this study was related to the mismatch between the supervisor and supervisees. Syed Mohamed et al. (2020) emphasised the importance of choosing supervisors based on their academic background at the early stage of postgraduate study. It is important to obtain such information of the supervisor to avoid conflict of interest later, and to avoid disagreement that might arise when it comes to discussion of the research. In the students could choose their supervisors based on their field of study, then the supervisors would be able to provide better knowledge as required by the students. If not, the students might encounter the scenario where supervisors could not provide the assistance required by the postgraduate students especially in the sharing of knowledge of the subject.

### 6.2 Social Issues Experienced by Postgraduate Students

One respondent dropped out from his postgraduate study due to his strained relationship with his supervisor. Hence the issues are not just academic related but include social. When postgraduate students feel neglected and do not receive the assistance they expect, they might have the intention to drop out. Castello et al. (2017)'s study is similar to the current one as students felt that their supervisors have no concern for their work which led to feelings of not being appreciated. This study evidently found the detrimental effect of relationship between postgraduate students and supervisors when expectations were not fulfilled. Vähämäki et al. (2021) also claimed that students expected their supervisors to provide them with full guidance to conduct their study especially in the aspect of academic writing.

On the contrary, supervisors expected their postgraduate students to be more mature and independent, know their responsibilities and conduct in the academic world. One reason for difficulty in the relationship is due to conflict of interest (Fook et al., 2023). Therefore, positive relationship between postgraduate students and supervisors are equally important and it needs to be established with mutual understanding and trust through effective interpersonal communication skill as recommended by Priyadarshini et al. (2022) and Oparinde (2021).

Generally, the relationship with peers is important as it affects the well-being of postgraduate students; not just for the purpose of obtaining social support and assistance in academic writing. Undeniably, age gap is a factor to be considered in peer issue as a big gap would make it difficult to establish effective communication between them, as Morelli et al. (2022) too had asserted in their study. Peers are important as they are the secondary source of assistance and support (Fook et al., 2023). The consequence of having few or no friends during their study has caused the students to rely heavily on their supervisors as reported in this study.

# 7. Conclusion

Previous studies have proven that postgraduate dropout was caused by not just a single factor, but several issues. This study discovered that these include supervision and academic competency of students who are not equipped with the relevant knowledge of research and academic writing skills. Low language proficiency too has caused postgraduate students to be very dependent and expect assistance from supervisors. Furthermore, negative relationship with supervisors further reduces the intention to persist in their study. When students' expectations are not met, they feel left out and not appreciated by their supervisors. Inadvertently, this could have led to deterioration in motivation as experienced the participants in this study. However, a discovery made was regarding the need to remain professional in the relationship with supervisors due to ethics and religious reasons when it involved the opposite gender. It is a point to consider in terms of gender and the societal values. Therefore, lack of integration in academic and social system do lead to drop out issues among postgraduate students.

The findings of the study imply that the university needs to provide better academic support especially in aspects of research and academic writing. This can be done by periodically organising developmental workshops and creating a support group for postgraduate students as an alternative support mechanism to reduce the dependency on supervisors. Moreover, such effort would enable postgraduate students to be attracted and engaged with the professional research communities rather than complete the thesis in isolation. This could also alleviate the burden of their supervisors who may have a large number of students to supervise plus other administrative responsibilities to fulfil at the faculty. Another suggestion is to create a postgraduate study group according to the field of study at the faculty. This is an effort to promote independent research and to create a social safety net where they may learn from one another's study. It could eliminate the feeling of isolation which would cause students to drop out. Overall, the Ministry of Higher Education can enhance this effort by developing better policies to solve the dropout issues identified in this study.

Obviously, academic (supervision and academic writing skill) and social (supervisor and supervisee relationship) system as suggested by Tinto (1993) have been identified as two key issues to cause students dropout. Henceforth, there is a need for an in-depth study to be carried out to bridge the gap between these issues between supervisor and supervisee and to develop a comprehensive model of

postgraduate supervision. Hence, future research is recommended to investigate further both the expectation of the supervisors on their postgraduate students and the expectation from supervisees on their supervisor to develop a guideline to help the postgraduate students to do their postgraduate study better. In future, the researchers might also investigate the preparedness of the postgraduate students before they embark on their postgraduate study.

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## **10.** Co-author contributions

Authors 1, 2 and 3 were responsible in the research conceptualization; literature review, writing, data collection and data analysis; Authors 4 and 5 were responsible to edit the whole paper in terms of language and organization of content, and author 6 was responsible for literature review and instrumentation.

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