FACTORS INFLUENCING PSYCHOLOGICAL WELL-BEING AMONG POSTGRADUATE STUDENTS IN MALAYSIAN RESEARCH UNIVERSITIES

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FACTORS INFLUENCING PSYCHOLOGICAL WELL-BEING AMONG POSTGRADUATE STUDENTS IN MALAYSIAN RESEARCH UNIVERSITIES

by

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LIST OF ABBREVIATIONS

AG	Agreeableness
AL	Accuracy of language
AU	Autonomy
CON	Content
CS	Conscientiousness
CSU	Cognitive Strategy Use
DV	Dependent Variable
EM	Environmental Mastery
EV	Extraversion
FAM	Family
FRI	Friends
FFM	Five-Factor Model
GEN	Gender
HTMT	Heterotrait-Monotrait Ratio
IV	Independent Variable
MRU	Malaysian Research Universities
NEU	Neuroticism
OE	Openness to Experience
OS	Organization and Structure
PAWS	Academic Writing Skills
PG	Personal Growth
PhD	Doctor of Philosophy
PL	Purpose in Life
PLS-SEM	Partial Least Squares Structural Equation Modelling
PO	Positive Relations with Others

PT	Personality Traits
PWB	Psychological Well-being
SA	Self-acceptance
SE	Self-esteem
SEM	Structural Equation Modelling
SIG	Significant Other
SR	Self-regulation
SRL	Self-regulated Learning
SSUP	Social Support
SV	Supervision
UiTM	Universiti Teknologi Mara
UKM	Universiti Kebangsaan Malaysia
UM	Universiti Malaya
UMP	Universiti Malaysia Perlis
UMS	Universiti Malaysia Sabah
UPM	Universiti Putra Malaysia
USM	Universiti Sains Malaysia
USUP	University Support
UTM	Universiti Teknologi Malaysia
UUM	Universiti Utara Malaysia
WHO	World Health Organization

LIST OF APPENDICES

FAKTOR-FAKTOR MEMPENGARUHI KESEJAHTERAAN PSIKOLOGI DALAM KALANGAN PELAJAR PASCASISWAZAH UNIVERSITI PENYELIDIKAN DI MALAYSIA

ABSTRAK

Pelajar pascasiswazah menghadapi pelbagai senario mencabar yang memaksa mereka keluar dari zon selesa dan menjejaskan kesejahteraan psikologi mereka. Kajian ini bertujuan mengkaji peramal kesejahteraan psikologi bagi penuntut lepasan ijazah di universiti-universiti penyelidikan (RU) di Malaysia. Tambahan lagi, tujuan kedua kajian ini adalah mengkaji sama ada jantina mempunyai kesan moderasi terhadap hubungan antara trait personaliti (neurotisisme, ekstraversi, keterbukaan kepada pengalaman, kepersetujuan dan sifat berhati-hati) dan kesejahteraan psikologi (PWB) penuntut lepasan ijazah. Jumlah sampel ialah sebanyak 297 orang responden. Kajian ini menggunakan metod kuantitatif untuk menjawab persoalan kajian. Sampel dipilih menggunakan persampelan bertujuan. Satu pautan dalam talian (Google Form) telah diedarkan melalui kumpulan pelajar lepasan ijazah. Soal selidik diadaptasi dari instrumen *"Postgraduate Research Experience Survey (PRES) 2007"*, *"The Multidimensional Scale of Perceived Social Support"*, *"Survey of Perceived Organizational Support"*, *"Perceptions of Postgraduate Students' Writing Skills"*, *"Rosenberg Self-esteem Scale"*, *"Motivated Strategies for Learning Questionnaire"*, *"The Big Five personality structure"*, and *"Ryff's PWB Scales"*. Faktor eksternal (pemantauan, sokongan sosial, sokongan universiti) dan faktor internal (kemahiran penulisan akademik dipersepsikan, keyakinan diri, pembelajaran regulasi kendiri dan trait personaliti, neurotisisme, ekstraversi, keterbukaan kepada pengalaman, kepersetujuan, dan sifat berhati-hati) berfungsi sebagai peramal, manakala

kesejahteraan psikologi sebagai pembolehubah bersandar. Hasil kajian menunjukkan bahawa faktor eksternal seperti sokongan sosial mempunyai impak yang paling signifikan terhadap kesejahteraan psikologi penuntut lepasan ijazah, diikuti oleh sokongan universiti. Bagi faktor internal, keyakinan diri mempunyai kesan yang paling tinggi terhadap kesejahteraan psikologi penuntut lepasan ijazah, diikuti oleh pembelajaran regulasi kendiri, sifat berhati-hati, ekstraversi, dan keterbukaan kepada pengalaman. Walau bagaimanapun, jantina tidak mempunyai kesan moderasi yang signifikan terhadap hubungan antara trait personaliti dan kesejahteraan psikologi penuntut lepasan ijazah. Hasil kajian ini menyumbang kepada implikasi dan pengetahuan berguna dari segi persekitaran, model, kerangka teori, metodologi, dan penemuan empirikal. Ia akan memanfaatkan pihak pengurusan universiti, penyelia, kaunselor, ahli keluarga, rakan-rakan, dan penuntut lepasan ijazah itu sendiri untuk mengetahui cara bagi meningkatkan keberkesanan fungsi mereka secara positif. Selain itu, bagi kajian masa hadapan, kaedah gabungan disarankan untuk digunakan bagi mengkaji kesejahteraan psikologi penuntut lepasan ijazah. Pengkaji masa hadapan juga boleh mengkaji aspek tambahan yang signifikan yang boleh mempengaruhi penuntut lepasan ijazah. Konklusinya, memahami faktor-faktor yang mempengaruhi kesejahteraan psikologi penuntut lepasan ijazah adalah penting kerana ia membolehkan mereka meningkatkan kesejahteraan psikologi mereka, dan kesannya dapat mengurangkan stres, membentuk persekitaran positif, dan menghasilkan kertas kajian yang lebih berkualiti tinggi.

FACTORS INFLUENCING PSYCHOLOGICAL WELL-BEING AMONG POSTGRADUATE STUDENTS IN MALAYSIAN RESEARCH UNIVERSITIES

ABSTRACT

In postgraduate education, students were exposed to a wider range of challenging scenarios that forced them outside of their comfort zones and affected their psychological well-being. The study aimed to investigate the predictors of postgraduate students' psychological well-being (PWB) in Malaysian research universities (MRU). In addition, the second aim of this study was to examine whether gender has moderating effects on the relationship between personality traits (neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness) and postgraduate students' PWB. In the present study, the population was postgraduate students in MRU. The total sample size was 297 respondents. This study used the quantitative method to answer the research questions. The sample was selected using purposive sampling. An online questionnaire link (Google Form) was distributed via postgraduate student groups. External factors (supervision, social support, and university support) and internal factors (academic writing skills, self-esteem, self-regulated learning, and personality traits-neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness) functioned as the predictors, and PWB as the dependent variables. The items questionnaire was adapted based on the instrument namely Postgraduate Research Experience Survey (PRES) 2007, The Multidimensional Scale of Perceived Social Support, Survey of Perceived Organizational Support, Perceptions of Postgraduate Students' Writing Skills, Rosenberg Self-esteem Scale, Motivated Strategies for

Learning Questionnaire, The Big Five personality structure, and Ryff's PWB Scales. The findings showed that external factors such as social support had the strongest significant impact on postgraduate students' PWB, followed by university support. For internal factors, self-esteem had the strongest effect on postgraduate students' PWB, followed by self-regulated learning, conscientiousness, extraversion, and openness to experience. However, gender did not have significant moderating effects on the relationship between personality traits and postgraduate students' PWB. The findings of the research add implication and provide useful knowledge in terms of the environment, models, theoretical frameworks, and empirical findings. It would benefit the university administrators, supervisors, counselors, family members, friends, and postgraduate students themselves to get the direction in enhancing postgraduate students' positive functioning effectively. Besides, for future research, it is suggested that a mixed-method approach is used to investigate the PWB of postgraduate students. Also, future researchers could investigate additional significant aspects that could affect the PWB of postgraduate students. In conclusion, understanding the factors that affect postgraduate students' PWB is crucial because it may enable them to enhance their PWB and, in turn, reduce stress, foster a positive environment, and create higher-quality papers.

CHAPTER 1

INTRODUCTION

1.1   Introduction

Every year, the number of candidates applying to enrol in master's degrees and doctoral programmes at public universities has increased dramatically and this is hardly surprising given the fact that many public universities offer a wide variety of courses and programmes that are tailored to meet students' needs for their professional development (A. M. Ismail & Dorloh, 2020). The number of postgraduate students in Malaysia has increased ten-fold from 1990 to 2010 (Ministry of Education Malaysia, 2015b). Thus, Malaysian universities need to raise their intake of postgraduate students to build a crucial figure of high-quality intellectual capital via holistic education and to make Malaysia a regional hub for tertiary education excellence (Sidhu et al., 2013).

At a time of globalization, the demands of society are increasing, thus the ascend of research needs to be multiplied. As a result, many universities are seeking research-based education generally, with students becoming not only research-informed but also researchers (Hughes, 2018). Educational institutions work focusing on strengthening their research capabilities, promote their academic reputation by delivering high-quality postgraduates, publishing journal articles in high-impact journals and developing a brand presentation to attract full-time postgraduate students (Alam et al., 2013). Therefore, postgraduate research education is an important element of research activities in institutions of higher education and has swiftly developed worldwide in the last two decades (Barry et al., 2018).

On the other hand, it is anticipated of students who are members of a higher education institution that they have the independence and responsibility to finish the academic tasks given, in order to achieve the competencies of postgraduates that are expected by the universities where they are studying at (Saputra & Palupi, 2020). Dedicated postgraduate students are more likely to finish their degrees on time and improve the overall quality of their learning. However, attrition and graduation rates in higher education are clearly a significant matter of concern (Abiddin et al. 2013). The stereotype of the solitary dissertation student toiling away for years and years to eventually stagger over the finishing line, tired and disillusioned, is not an urban legend (Brailsford, 2010). During the process of the research journey, postgraduate students may encounter numerous problems and difficulties, which may cause them to become dissatisfied or even desire to give up.

The high rate of mental well-being problems among tertiary students is a significant challenge for higher education institutions as well as the communities that surround them (Baik et al., 2019). Students who struggle with their mental well-being are also less likely to persist when confronted with challenges and have a greater propensity to withdraw from their studies altogether (Baik et al., 2019). The prevalence of poor mental health on college campuses can have an effect not only on the academic and physical well-being of students, but also on their rates of retention and graduation (Wyatt & Oswalt, 2013). For instance, the research indicated that among students who claimed that they had experienced burnout, the risk of them quitting their postgraduate programmes was higher (Cornér et al., 2017). For example, when students experience extreme fatigue during their course of study and tend to behave poorly in their studies as a result of reduced levels of PWB indicated, burnout has been identified as one of

the most significant factors in the development of persistent stress and that it may decrease the level of PWB (Rehman et al., 2020).

PWB is one of the most important elements of personal and social development (Emadpoor et al., 2015) and essential positive psychology markers that require further research (Harding et al., 2019). Generally, positive life outcomes are associated with PWB and that it is a significant indicator of overall well-being (Tan et al., 2021). In the context of education, PWB is seen as the result of a life well-lived, and it is a crucial component in the success of students in adjusting to the challenges of college and university life (Morales-Rodríguez et al., 2020).

Generally, negative life events, problems, struggles and difficult situations are all parts of being human and are often inevitable (Lin et al.2017). There are many barriers that threaten postgraduate students, such as family commitment, job commitment, financial obligations and so on, all of which could have an effect on their accomplishments, given that a lot of them are working and married student (Zainal Abiddin & Ismail, 2011). Postgraduate students' lives are undeniably hectic, with job, family, research and other everyday obligations (Vasugi & Che Hassan, 2019).

It is noteworthy to highlight that an individual with several psychopathological symptoms is much more likely to encounter low well-being, such as fewer positive feelings, low pleasure with life or reduced individual or social functioning (Lamers, 2012). For example, PWB problems have become more prevalent among university students in recent times, especially among postgraduates who are vulnerable to such problems (Roslan et al., 2017). Based on Baharudin et al. (2013), it is recommended that adult students must adapt and find solutions to their problems on their own because, in general, adults are independent but must make their own decisions.

Therefore, graduate students must employ appropriate psychological techniques and tools to cope with the aforementioned stress in order to achieve both an optimum level of PWB and a satisfactory academic career (Panahi et al., 2016). They also require assistance from the environment during the stress response, otherwise, it may be difficult to resolve the issue if only individual aspects are considered.

In recent years, research literature has shifted from an stress on disorder and dysfunction to a focus on well-being and positive mental well-being (Huppert, 2009). Undoubtedly, the well-being of students is becoming increasingly recognized as an important concern. Student mental health is also critical to universities' core objective of delivering high-quality educational opportunities and positive graduate outcomes (Baik et al., 2019). Theoretical and practical implications of research into the situations that promote versus undermine positive human potentials are that it can lead not only to formal knowledge of the causes of human behaviour but also to the outline of social environments that maximise people's growth, performance and well-being (Ryan & Deci, 2000).

Education and educational psychology research have made significant contributions to our understanding of the dynamic mechanisms that form students' educational experiences and a core component of these efforts has been mapping the growth, antecedents and outcomes of key change framework that guides learning and achievement (Hodis & Hancock, 2016). Thus, this study considers the vital factors in studying the contribution of external factors (supervision, social support, and university support) and internal factors (academic writing skills, self-esteem (SE), self-regulated learning (SRL), personality traits-neuroticism (NEU), extraversion (EV), openness to experience (OE), agreeableness (AG), and conscientiousness (CS) on postgraduate students' PWB.

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1.2 Background of Study

A university was originally intended as a student-centred learning environment, but it has since evolved into a crucial part of the knowledge economy (Chan, 2018). In a knowledge-based economy, a university function includes not only the dissemination of knowledge through teaching, but also the development of new information and the expansion of existing information base through research, as well as the promotion and dissemination of information to society through teaching and service (Wan et al., 2015). Both developed and developing countries have expanded their provision of postgraduate education in response to the growing demand from students (both conventional and non-traditional students who take full-time or part-time courses) who recognise the value of postgraduate education in improving their job prospects (Kaur & Sidhu, 2009).

Postgraduate study is a development stage in which learners build an academic job path after obtaining their bachelor's degree or higher education and that they must develop as scholars with both the institution's thoughtful support and guidance (Zainal Abiddin & Ismail, 2011). Especially in a highly competitive economy and the need for a highly creative and resourceful pool of talent with extensive research training in the workforce, Malaysia urgently needs more postgraduate students (Ng et al., 2011).

There are three types of postgraduate programmes: coursework, mixed mode, and research mode. Graduate students who wish to graduate and obtain a master's or doctorate degree must engage in the research process as part of their coursework (Sumarwati et al., 2020). In research process, student is synonymous with apprenticeship in the sense that it is about learning to be a researcher by doing research, whether in the laboratory, the field or the society (McCormack, 2004). Graduate

students, on a whole, represent a wide diverse background: (1) age, (2) cultures and religion, (3) experience and ability, (4) part-time, full-time, internal or external, (5) their needs change over time/place/space and (6) with or without scholarships or other forms of financial assistance (Abiddin et al., 2013).

Since 2002, many public universities in Malaysia have seen a significant rise in postgraduate numbers and as a result, postgraduate education in Malaysia has undergone considerable changes, with a various of patterns and factors continuing to influence higher education institutions in providing a wider range of postgraduate programmes to diverse students (Kaur & Sidhu, 2009). Malaysian public higher education institutions have been actively recruiting postgraduate students in plan to enlarge their research and development (R&D) capability (Nordin et al., 2012). The value of research to universities, the country, and the entire educational platform cannot be underestimated and can be used to examine new concepts, understand issues and condition, solve issues, create new and applicable curriculum and many other things (Mohd Isa & Ahmad, 2018).

As part of the nation-building agenda, the higher education sector plays a vital role in training and nurturing high-quality graduates (Lim et al., 2016). Malaysian universities, especially research universities, have worked to promote postgraduate studies and improve the quality of postgraduate research (Ibrahim & Hassan, 2011). Universities in Malaysia are required to prioritise 'research, publications, innovation and commercialization' as one of their key plans, regardless of their position in titles of research, focused or comprehensive universities (Mohd Isa & Ahmad, 2018).

Malaysian universities that contribute to research and development activities and publications have been granted Research University status by the Ministry of Education, which has resulted in a high demand for postgraduate students (Phang et al., 2014). Malaysia, as a successful developing country, has given a huge step to improve the performance of local public universities by establishing the status of research university, with five public universities being identified as research university (Ramli et al., 2013). Mohd Isa et al. (2016) stated that research universities such as Universiti Sains Malaysia (USM), Universiti Malaya (UM), Universiti Kebangsaan Malaysia (UKM), Universiti Putra Malaysia (UPM), and Universiti Teknologi Malaysia (UTM) appear to have higher quality students than non-research universities, with the exception of Universiti Islam Antarabangsa Malaysia, where academicians rate the theses written by its students as above average and of high quality.

Seventy percent of the publications were produced by the five Malaysian research universities (MRU) (Ministry of Education Malaysia, 2015a). Also, research universities have been viewed as a tool for reaching nation prosperity through knowledge-based economies or K-economies (Ramli et al., 2013). Malaysian research universities are striving to be world-class institutions with the ability to attract the best students in order to achieve excellence in education and research (See et al., 2014).

It aligns with the MRU goals of (1) being a pioneer in innovation; (2) establishing and enhancing centres of excellence in priority areas of the country; (3) producing world-class research outputs; (4) producing high-impact study publications; (5) recruiting high-quality postgraduates and (6) create a favourable climate for study (Komoo et al., 2004). In addition, to acquire the status of a world-ranked university, academics and students must produce high-quality research that is recognised internationally, especially in MRU (Sheriff & Abdullah, 2017). Postgraduate

students are encouraged to publish their paper because it determines their ability to advance their expertise and it is a requirement for graduation at some MRUs.

Graduate students, on the other hand, face with additional academic demands because they have to juggle a wide range of tasks, such as taking courses, managing projects, and writing papers (Eleftheriades et al., 2020). Firstly, students must write a proposal for a research topic that illustrates the existing gap in the literature and the reason for the thesis at the proposal level. Next, they have to perform the analysis in the second level, collecting and analysing the data according to the standards of research ethics. The entire research is written in the third level, keeping academic writing conventions in mind. Lastly is to apply their thesis and defend it in a viva voce session (Sidhu et al., 2016).

During the research process, research students are under pressure to: (1) finish during their candidature period – reducing their learning entitlement; (2) publish/present conference papers; (3) support their families/careers; and (4) build a wide set of skills that will promote their marketability (A. Ismail & Abiddin, 2009). In general, postgraduate students not only have to cope with their studies, but also consider a variety of other factors and make additional commitments while on their study journey. Hence, Thuraiselvam and Thang (2015) claim that mental health issues have become the most commonly reported problem among students compared to the general population.

What is more is PWB is a vital element in educational research. In the past, mental health has been skewed heavily against psychological dysfunction, with studies of positive mental functioning pale in comparison to inquiries into psychological disorders. In reality, basic terms like mental health have a negative connotation, since

most people associate well-being with the absence of illness rather than the presence of mental well-being. Such a concept neglects individual capacities and needs for flourishing, as well as the protective attributes that come with being well (Ryff & Singer, 1996). PWB includes hedonic and eudaimonic well-being in addition to the three domains of subjective well-being such as happiness, life satisfaction, affect balance (Adler et al., 2017). Besides, low levels of well-being are not really for ever indicative of mental illness (Hernández-Torrano et al., 2020a). For example, PWB relates to how people's life is going its mixture of feeling good and being able to function effectively (Huppert, 2009; Punia & Malaviya, 2015).

Mental health issues can influence anyone, regardless of age, income, social status, race ethnicity, religion/spirituality, background or any other cultural factor (Hassan et al., 2018). Since postgraduate students come from a diverse range of backgrounds, ethnicities and ages, cultures, languages, religions, experience, and skills, both with and without scholarships, they have been under pressure to accomplish their study prior to or within the candidature period (Alam et al., 2013). Mental issues makes it difficult for an individual to experience PWB (Adler et al., 2017). Student learning may be impaired by mental health problems, which affect their focus, cognition, problem solving, social interactions and ability to coordinate constructively with others or participate effectively in learning activities (Baik et al., 2017).

Apart from this, Mazumdar et al. (2012) noticed that postgraduate students faced significantly more mental stress than undergraduates. According to Roslan et al. (2017), research have indicated that postgraduate students who are transferring from a structured setting (course-taking) to a more unstructured environment (independent research) often struggle with poor PWB. Previous studies that were carried out in

different parts of the world revealed that postgraduate students regularly experience a significant level of stress in their lives (Zegeye et al., 2018). The bulk of postgraduate students suffered with depression, anxiety and stress, which are all common psychological issues that could affect their professional growth as well as their academic performance and everyday lives (Vasugi & Che Hassan, 2019). See et al. (2014) pointed out that postgraduate students are more likely not to accept counselling or professional advice to support them in coping with personal issues and psychological challenges.

According to findings by Hazell et al. (2020), PhD students, as compared to the general population, have a significantly more maladaptive imbalance between their available resources and the demands placed on them. For instance, if a PhD cohort has a poor level of well-being, it may have an important impact on the quality and quantity of the research outputs produced by a university (Scott & Takarangi, 2019) as well as a rise in depression (Shahira et al., 2018). It could also have an impact on students' positive learning and task performance (Roslan et al., 2017). Furthermore, it may lead to negative learning experiences as well as negative thoughts about postgraduate research (Nabilla et al., 2018). As a consequence, this may cause emotional distress, which may have an impact on the students' professional competence (Zegeye et al., 2018).

The professional competency of postgraduate students such as knowledge, skills, ability, and attitude of postgraduate students are crucial factors to enhance their research capabilities. For instance, Cooper et al. (2020) found that depression impaired students' motivation and productivity, ingenuity and risk-taking, commitment and focus, along with self-perception and socialising. It was also discovered that a correlation exists between a higher count on psychological distress and a lower count

on well-being (Moss et al., 2021). Moss et al. (2021) stated that postgraduate research students showed high levels of psychological distress than undergraduate students, indicating that they may be looking for support for their issues.

To pursue their education, postgraduate students need enthusiasm, strength, support and commitment (Abiddin et al., 2013). However, the followings are some of the key questions that postgraduate students have about their learning experiences: 1) the pressures of completing and dealing with postgraduate work requirements 2) the initial challenges of adapting to a new environment and academic environment 3) issues with critical reading and comprehension of academic texts 4) writing in acceptable language 5) a lack of research skills and 6) discrepancy in cultural standards (Kaur & Sidhu, 2009). Besides, what matters most to postgraduate students are the basic aspects of their educational experiences for students in research-based programmes, the performance of supervision and financial support has also appeared as a prominent theme (Crane et al., 2016). It should be noted that postgraduate students with good mental well-being not only can overcome the challenges and negative emotions, but also leads to positive outcomes such as having physical well-being and academic success.

Indeed, strengthening their condition and maintaining their PWB can enable them to do better academically and achieve great results in their future careers (Ratanasiripong et al., 2018). Therefore, for postgraduate students to achieve their well-being and obtain academic goals, is crucial to look at the factors that can influence their PWB. The unanswered problems investigated the following dimensions: (1) whether respondents thought their lives had significance, intent and direction (purpose in life); (2) whether they see themselves as living in accordance with their own personal beliefs (autonomy); (3) the degree to which they were using their unique

abilities and potential (personal development); (4) how well they were handling their life circumstances (environmental mastery); (5) the depth of relation they had in their relationships with significant others (positive relationships); and (6) the personality and acceptance, including awareness of personal weaknesses (self-acceptance) (Ryff, 2014).

To overcome the problem of postgraduate students' PWB, the factors involved in postgraduate students' study life need to be investigated further. First and foremost, during the process of supervision, supervisors are expected not only to provide encouragement and assistance, but also to supply students with resources and information, comments and thesis writing guidelines (Sidhu et al., 2014). However, some of the students' complaints and enquiries were not acknowledged by their supervisors in time (Phang et al., 2014). Besides, McCallin and Nayar (2012) stated that risk enhances when a student has individual issues, as well as when there are conflicts with supervision relationships, project management and obtaining support from the faculty research culture. As graduation is the pinnacle of the postgraduate students research journey, so they must immerse themselves in a research atmosphere in order to finish their theses and graduate in a timely manner (Muthukrishnan et al., 2022).

Following that, postgraduate student needs social support in meeting their emotional requirements, obtain information and prevent the feeling of being alone. Social support may safeguard mental health in two ways: directly through the advantages of social relationships and indirectly by acting as a buffer against stressful situations (Garie´py et al., 2016). Postgraduate students require not only social support, but also university support. University support helps postgraduate students obtain information about research through workshops, databases, and publication

opportunities and counselling services. Furthermore, students' welfare is a vital aspect of university life. Much of the study on university student well-being has concentrated on determining the prevalence of psychological distress and the usage of support services by students who are experiencing mental well-being issues (Baik et al., 2019).

Academic writing skills is another essential factor for postgraduate students. Academic writing is widely identified as a crucial skill for students to improve their educational performance at the university level (Sajid & Siddiqui, 2015). When it comes to the thesis section of the course, postgraduate students may experience writing difficulties. Anxiety while writing is brought on by a lack of proficiency with English structure, a negative attitude on writing, poor writing endeavours in the past, and a lack of skill in academic writing (Al-Shboul & Huwari, 2015). Academic writing skills will improve the quality of research; nevertheless, postgraduate students will also require high SE to assist them gain confidence when undertaking research. For example, postgraduate students' SE can help them in developing self in their skills to complete their task and enhance the overall quality of their work. SE is a significant risk and protective factor faced with a range of health and social consequences (Mann et al., 2004).

Furthermore, postgraduate students are more likely to embark in SRL, and self-regulation is a significant element of their ability to organise and manage their studies well. SRL is a key conceptual framework for understanding the cognitive, motivational and emotional aspects of learning (Panadero, 2017). Madihie and Mos (2018) mentioned that many graduate students in universities are unaware of the significance of SRL in their learning process, as the students do not realise what SRL is and how it can drive their desire to learn. Aside from that, personality traits are one of the internal factors that influence postgraduate students. The personality

characteristics of each postgraduate student may either help them improve their well-being or worsen their condition. In other words, personality has taken centre stage in the stress-resistance process (Srivastava & Das, 2015). Also, students have distinct characteristics that prepare them for diverse worldviews and, as a result, for different characteristics in numerous social and educational settings (Hakimi et al., 2011).

To summarize, identifying the key problems and difficulties in tertiary education has also caught the interest of social science and education scholars and practitioners (Ghasemy et al., 2018). Students at the undergraduate level have been studied extensively over the decades, but graduate students have earned less study (Panahi et al., 2013) in psychological research. It is suggested that students must be conscious of their research challenges as well as psychological concerns in order to foster a positive functioning. Identifying and investigating the difficulties will be the key to assisting postgraduate students in overcoming the obstacles they encounter during their study process. Thus, investigating the factors to comprehend postgraduate students' research journey such as external (supervision, social support, university support), internal factors (academic writing skills, SE, SRL, and personality traits-NEU, EV, OE, AG, and CS) which can enhance students' PWB in their research life seems as essential to study.

1.3   Problem Statement

The well-being of postgraduate students is a significant part of study due to the challenges/difficulties. They are typically studying in situations that are out of their comfort zone. According to A. M. Ismail and Dorloh (2020), postgraduate education is often considered to be more difficult than undergraduate education. As attrition rates for postgraduate degrees are generally higher than those for bachelor's degrees across

all three categories (research universities, focused universities and comprehensive universities) (Ministry of Higher Education Malaysia, 2017). For instance, within the MRU cluster, one student out of 13 drops out of their bachelor's degree programme, whereas within the same university cluster, one student out of five drops out of their master's or PhD programme (Ministry of Higher Education Malaysia, 2017).

The findings of Deary et al. (2003), experiencing burnout was discovered to be connected with a greater likelihood of dropping out of university. 6.7% of postgraduate research students indicated mental or emotional health issues as their top reason for considering dropping out of a postgraduate research degree (27.4% of those who had considered leaving) (Pitkin, 2021). However, there is 32.7% of postgraduate researchers considered about leaving their postgraduate students programmes due to concerns about their mental health (Berry et al., 2022). Besides, the academic achievement of university students is adversely impacted by mental health issues (Zada et al., 2021). Besides, graduate students claimed that depression had only a detrimental impact on their research, particularly impeding their motivation and self-confidence (Gin et al., 2021). Thus, their academic performance and progress may be impacted by problems with mental health.

In Malaysian context, universities have successfully broadened their academic impacts in this new era of globalisation, however, mental health among Malaysian students is still an important concern (Kotera & Ting, 2019). According to Vasugi and Che Hassan (2019), 37.4% postgraduate students in Malaysia experience moderate depression and 72.6% reported having mild to extremely serious depression. in Malaysian public university. The investigations were not in-depth on postgraduate students' PWB although there are some past studies focusing on postgraduate students' PWB in Malaysian context (Ch'ng et al., 2022; Nabilla et al., 2018; Panahi et al., 2013;

Panahi et al., 2016; Roslan et al., 2017; Vasugi & Che Hassan, 2019) Fewer research have been done in Malaysia on the psychological well-being of postgraduate students compared to undergraduate students, therefore there is still a lot that is unclear about the psychological well-being of postgraduate students (Ch'ng et al., 2023).

In international context, data of the General Health Questionnaire, Zegeye et al. (2018) found that a high percentage of postgraduates in Ethiopia university experience significant levels of stress. Additionally, the GHQ-12 data showed that 32% of postgraduate students in Flanders, Belgium, are at risk of developing a common psychiatric condition, particularly depression (Levecque et al., 2017). The findings showed that 51% of students experienced at least two signs of psychological health deterioration while pursuing their degree, and 40% experienced three or more (Levecque et al., 2017). The findings of a research conducted by Marais et al. (2018) indicated that a significant number of French postgraduate students (very large university in French) students suffered from abnormally high levels of anxiety (42%) and depression (54%). Evans et al. (2018) showed that postgraduates are more than six times more likely than the general population to encounter depression and anxiety, based on information from 26 nations and 234 institutions.

Postgraduate students in MRU are a highly susceptible population due to the extreme challenges and difficulties imposed by their research. Also, previous studies reported that postgraduate students had faced several issues in their education journey. The prime reason for this would be that postgraduate students have traditionally experienced problems like those supervision problems (Azure, 2016; Comley-White & Potterton, 2018; A. Ismail & Abiddin, 2009; Mahlangu, 2021; Matin & Khan, 2017; Ngozi & Kayode, 2013; Sam et al., 2013; Sidhu et al., 2013), isolation (Ali & Kohun, 2006; Barry et al., 2018; Janta, et al., 2014), lack of institutional support (Sidhu et al.,

2013), academic writing problems (Abdulkareem, 2013; Al-Shboul & Huwari, 2015; Baqutayan, Abdul Ghafar, & Gul, 2017; Jeyaraj, 2018; Kuang & David, 2015; P. Mohd Isa & Ahmad, 2018; Sam et al., 2013; Sidhu et al., 2014; Singh, 2015; Yuen & Mussa, 2015), time constraint (Bailie, 2009; Holmes et al., 2018; Matin & Khan, 2017) and lack of confidence (Bailie, 2009; Holmes et al., 2018; Patterson, 2009). It is a lack of knowledge above mentioned factors on postgraduate students' psychological well-being at MRU.

All these stressors may put postgraduate students at high risk, and these would affect their psychological functioning including anxiety, tension, and even despair. On the whole, the study found that if the problems that students were experiencing, it would have negative consequences such as despair, low SE, low interest, low focus on work, stress, a lack of ideas, failure to reach the desired goal, constant worry and lack of commitment to the task at hand, as well as failure to successfully complete the research study (Sumarwati et al., 2020). Only when a person is unable to cope with his or her environment does distress arise, which can lead to psychological difficulties and maladjustment (Linden, 2014). According to the self-determination theory (SDT) (autonomy, competence, and relatedness) and stress and coping theory, there is a need to explore the factors that have been mentioned above on postgraduate students' PWB.

Moreover, another area of concern is the link between postgraduate students' PWB and the role of personality traits. The five-factor model (FFM) of personality traits shows that the personality traits could affect one's well-being. The two reasons why personality traits functioned as the factors in this study are 1) personality types are related to how people handle and control their emotions, so research into the relationship between personality types and adult learners, such as postgraduate students, is necessary (Falconer & Adragna, 2017) and 2) in the same situation, coping

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mechanisms that are effective for a person may not be appropriate for another (Ntoumanis et al., 2009).

According to T. Wang et al. (2023), gender's role as a moderator in the link between personality and depressive symptoms is still unclear. Furthermore, the contribution of investigating the moderating role of gender of postgraduate students seems important due to inconsistent findings. It could seek to offer better explanation whether the gender could affect the direction or the strengths of the factors and PWB in the interaction process influences. According to Das and Sahoo (2012), male postgraduates are more likely to suffer from depression than female postgraduate students. Furthermore, the results of a regression analysis (the participants' ages ranged from 21 to 64) revealed that male was much more connected with PWB than female (Matud et al., 2019). On the other hand, it was found that female postgraduates had a higher level of PWB than their male postgraduates (Panahi et al., 2013). However, statistical analysis revealed that among postgraduate students, gender did not significantly affect PWB (Ashok, 2017). According to the findings of previous studies, there were inconsistencies found in the relationship between gender and PWB.

Due to these factors, it is of the utmost importance to explore the concerns regarding the psychological health of postgraduate students who are enrolled in public universities especially research universities in Malaysia. It is essential for them to strengthen their willpower in order to maintain their engagement while also caring to their own well-being (Chakma et al., 2021). In addition, there is a growing concern that being a university student, particularly a postgraduate student, is an exceptionally hard phase that is well-known for being difficult for an individual. According to Jackman et al. (2021), well-being in postgraduate students can be attained by a dual emphasis on the external environment as well as individual factors. Also, Burns et al.

(2020) stated that internal and external factors can both contribute to well-being. It is plausible to investigate the external and internal factors on postgraduate students' PWB.

In summary, this study was established to fill this gap by investigating the influence of external factors (supervision, social support, and university support) and internal factors (academic writing skills, self-esteem, self-regulated learning, and personality traits-neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness) and gender as a moderator on postgraduate students' psychological well-being. These relationships have yet to be thoroughly investigated among postgraduate students in MRU. Since postgraduate degree is so unique in nature when compared to other university degrees, the present study has crucially examined the factors of postgraduate students' PWB.

1.4   Research Purposes and Research Objectives

The purpose of this study was to address the research gaps. The aim of this study was two-fold. The first purpose of the present study was to develop an understanding on the factors of postgraduate students' PWB in MRU. Furthermore, the second aim of this study was to examine whether gender has moderating effects between the relationship of the factors on postgraduate students' PWB.

The objectives of the research are as follows:

1.   To determine the level of PWB, external factors (supervision, social support, and university support) and internal factors (academic writing skills, SE, SRL and personality traits-NEU, EV, OE, AG, and CS) among postgraduate students in MRU.

2. To investigate the influence of external factors (supervision, social support, and university support) on PWB of postgraduate students in MRU.

3. To investigate the influence of internal factors (academic writing skills, SE, SRL, and personality traits (NEU, EV, OE, AG, and CS) towards the variation of PWB of postgraduate students in MRU.

4. To find out whether gender as the moderating effect of postgraduate students on the relationships between personality traits (NEU, EV, OE, AG, and CS) and PWB.

1.5   Research Questions

The findings of this study attempted to answer the following questions:

1. What is the level of PWB, external factors (supervision, social support, and university support) and internal factors (academic writing skills, SE, SRL, and personality traits-NEU, EV, OE, AG, and CS) of postgraduate students in MRU?

2. Is there any relationship between external factors (supervision, social support, and university support) and PWB among postgraduate students in MRU?

3. Is there any relationship between internal factors (academic writing skills, SE, SRL, and personality traits (NEU, EV, OE, AG, and CS) and PWB among postgraduate students in MRU?

4.   To what extent does the moderating variable (gender) have on the relationship between personality traits (NEU, EV, OE, AG, and CS) and PWB in the research model?

1.6   Significance of Study

The research has shed light on a picture of PWB of postgraduate students in MRU. This is due to the fact that the variables in this study are related with the postgraduate students that are needed throughout the educational process. Therefore, in this study has provided a starting point of critical input as the most effective tool for the provision of adequate resources in restoring postgraduate students' PWB when postgraduate students begin their study. It is essential to support university students in every way possible by creating strategies to synthesise characteristics that are consistent with the university's goal of developing professionals for a better world (Yasmin et al., 2018).

Identifying and investigating the needs of postgraduate students will be the solution to help them overcome the obstacles in their research journey. It's important to note that university students' well-being is essential not just in influencing students' future attitudes and job outcomes, but also in the outcomes that advantage the societies overall (Ukeh & Hassan, 2018). For instance, this study provides an important opportunity to advance the understanding of factors of PWB among postgraduate students in MRU. The significant of factors (external/internal) which could promote postgraduate students' PWB level might improve their positive functioning and prevent the negative outcomes in their study life. It offers a valuable viewpoint and the ability to think about well-being not only as an individual state, but also as a complex interactive relationship between individuals and the environment.

When it comes to the mental well-being issues of postgraduates, universities frequently focus on individuals who are already in a condition of moderate to severe distress while these methods are definitely vital, but universities also need to concentrate on prevention strategies in order to lessen the severity of depression symptoms before they got worse (Charles et al., 2021). In this sense, the research provides good examples on the benefits of enhancing psychological character strength of postgraduates. Therefore, the findings of this research could help Malaysian Ministry of Higher Education, policy makers, staff academic, universities administration, counsellors, and other parties to assist in increasing the level of students' PWB and improve the quality and quantity of research and publication needed by the society and country.

Firstly, the findings provide empirical evidence that could help student affairs organisations in universities to provide effective counselling programs to the students who are in troubles and promote constructive of postgraduate student's amendment and broad-based education for the eradication or minimization of adverse effects on them. Universities will be able to implement tailored interventions and policy initiatives to improve postgraduate students' well-being on individual or institutional level based on the comprehensive assessment of their mental health using valid and reliable evaluation, thereby enhancing the student's life, learning and development (Scott & Takarangi, 2019). PWB is a positivistic psychological stream that practitioners of guidance and counselling should consider in order to provide better services to students that are not solely focused on their problems, but also address the positive aspects of the student (Fauziah et al., 2018).

Secondly, the discussions and justification of this study will be able to contribute and share good practices among postgraduate students in MRU. For example, supervisors and administrators are responsible to create an environment that will assist on postgraduate students' well-being and lower the dropout rate of such students. Furthermore, academic institutions should invest in their postgraduate student cohort by providing them with both the skills and support they need to excel academically and emotionally (Pretorius, 2019) as well as master students.

In addition, postgraduate students' PWB may be improved by effective screening and well-being management programmes that are focused on their personality traits. It worth to highlight that knowing the personalities of students can assist supervisors and non-academic staff in incorporating appropriate strategies into the supervisory process to improve student learning and well-being. The personality traits plays a major role in determining the best approaches and interventions for fostering individual self-development in daily life (Mohd Yunus et al., 2018). It is logical to think that disparities in gender will have an impact on students' PWB during their study life. It can assist in understanding the way that PWB and different coping techniques vary with gender differences and the coping techniques students adopt. The findings may be useful for the development of programs and policies designed to promote the psychological health of female and male postgraduate students. Also, it will be useful for academic staff and maybe administration in order to develop stress-reduction techniques.

To conclude, the findings could help the Ministry of Education, supervisor, counsellors, and university administration to design and develop proper intervention program to reduce psychological challenges among postgraduate students. It is important to encourage all students to seek out available, inclusive formal support both

on and off campus, without any obstacles (Lee, 2021). The present study builds a model of the vital factors of PWB among postgraduate students in MRU based on SDT and stress and coping theory. Furthermore, FFM and Eudaimonia Theory give a comprehensive understanding and directions about postgraduate students' PWB.

1.7 Limitation and Delimitations of the Study

Limitations are potential flaws in your research which are beyond your control, whereas delimitations are characteristics that define the scope and limits of your study and are within your control (Simon, 2011). The variables of this research were measured on a Likert-type scale with an adaptation instrument specifically for the proposed study. The instructions and purpose of this study were clearly written and stated that the information collected are confidential. Since it was a questionnaire-based study, the respondents' responses may not be reliable (Shete & Garkal, 2015). The disadvantage of survey instrument is the accuracy and honesty of the information given by the respondents.

Furthermore, it is quite difficult for researchers to obtain data when there are many items in the survey. Due to time constraints, the area of this study was limited to postgraduates who enrolled in a master and doctoral level programme in MRU. Besides, there were not many people willing to participate because the questionnaire had a lot of items, thus it may take some time to answer them.

Purposive sampling was used in this research to collect the data because there were many items on the survey form; only a small percentage of respondents were willing to answer all the questions and the universities were unable to provide the email addresses of the postgraduate students. Thus, the finding of the present study cannot be generalised to all postgraduates' population in all MRUs. When using purposive