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Project Title: Self-Esteem, Locus of Control and Hopelessness as Predictors of Depression among University Students in Malaysia.
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SELF-ESTEEM, LOCUS OF CONTROL AND HOPELESSNESS AS PREDICTORS

OF DEPRESSION AMONG UNIVERSITY STUDENTS IN MALAYSIA.

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This research project is submitted in partial fulfilment of the requirements for the Bachelor of

Social Science (Hons) Psychology, Faculty of Arts and Social Science, Universiti Tunku

Abdul Rahman. Submitted in April 2023.

SELF-ESTEEM, LOCUS OF CONTROL AND HOPELESSNESS AS PREDICTORS OF
DEPRESSION AMONG UNIVERSITY STUDENTS IN MALAYSIA

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SELF-ESTEEM, LOCUS OF CONTROL AND HOPELESSNESS AS PREDICTORS OF DEPRESSION AMONG UNIVERSITY STUDENTS IN MALAYSIA
Approval Form

This research paper attached hereto, entitled " Self-esteem, Locus of Control and

Hopelessness as Predictors of Depression among University Students in Malaysia " prepared

and submitted by "Cheang Yen Thung, Chuah Yue Xuan and Kelvin Goh Wei Jin" in partial

fulfilment of the requirements for the Bachelor of Social Science (Hons) Psychology is

hereby accepted.

_____   Date: <u>10th April 2023</u>

Supervisor

(Dr T'ng Soo Ting)

SELF-ESTEEM, LOCUS OF CONTROL AND HOPELESSNESS AS PREDICTORS OF DEPRESSION AMONG UNIVERSITY STUDENTS IN MALAYSIA

Abstract

About 30% of all university students in Malaysia suffer from different severity of depression. However, there have been a lack of studies on predictive factors that could lead to depression among university students. This current study aims to investigate the predictive effect of self-esteem, locus of control (internal and external), and hopelessness on depression among university students in Malaysia. A total of 123 participants' data were collected to conduct this study, however after data cleaning only 95 responses were used in final data analyses. The criteria for participants of this study are i) Malaysian, ii) current university student and iii) currently residing in Malaysia. Out of the 95 respondents, 51.6% were males and 46.3% were females. Majority of the study participants were of Chinese ethnicity with 95.8%. Instruments that were implemented in the study were i) Rosenberg's self-esteem scale, ii) adapted Levenson's multidimensional locus of control scale , iii) Herth hope index and iv) patient health questionnaire-9. The final results showed that self-esteem was a significant negative predictor for depression and external locus of control was a significant positive predictor for depression. Internal locus of control and hopelessness were both non-significant predictors of depression. These results have contributed information on the predictive effects of self-esteem and external locus of control on depression. Proper intervention method could be designed and applied to decrease the risk of university students in developing depression.

Keywords: self-esteem, locus of control, hopelessness, depression, university student

SELF-ESTEEM, LOCUS OF CONTROL AND HOPELESSNESS AS PREDICTORS OF DEPRESSION AMONG UNIVERSITY STUDENTS IN MALAYSIA

Declaration

We declare that the material contained in this paper is the end result of our own work and that due acknowledgement has been given in the bibliography and references to ALL sources be they printed, electronic or personal.

Name: Cheang Yen Thung

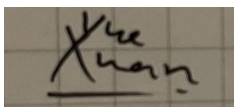Student ID: 1903679

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List of Abbreviations

Abbreviations

ALMLCS	Adapted Levenson Multidimensional Locus of Control Scale
ELCS	External Locus of Control Scale
HHI	Herth Hope Index
ILCS	Internal Locus of Control Scale
PHQ-9	Patient Health Questionnaire 9
RSES	Rosenberg Self-Esteem Scale

<p align="center">**Chapter 1**</p>

<p align="center">**Introduction**</p>

Background of Study

The American Psychiatric Association defined depression as a severe level of sadness or despair which lasts more than a few days. Depression can affect daily life activities and decrease the overall well-being of an individual. Their eating habits, sleeping habits and motivation methods will be affected by their depressive thoughts, such as insomnia, lack of appetite and decrease in productivity. Depression is a common disease suffered by university students (Sarokhani et al., 2013). According to a cross-sectional study done in Malaysia by Islam et al (2018), around 30% of this study's 1017 participants which consist of undergraduate students suffer from depression. Depression is an important issue that needs to be paid attention by those universities particularly among those who are situated in low to middle income countries as they are at higher risk of developing depression (Akhtar, 2020). Malaysia is a middle income country (Hamid, 2022), therefore more emphasis needs to be placed by universities on their student's mental health well-being.

One of the predictors that is chosen for predicting depression is self-esteem. Self-esteem refers to the individual's perception of their own self-worth, the respect they command and their confidence towards themselves (Abdel-Khalek, 2016). Individuals with high self-esteem tend to have higher confidence levels and in turn lead to a happier person due to lesser worries. The prevalence rate of low self-esteem in a study which examined medical students is 19%, this reported that one in every five medical students suffer from having low self-esteem (Gidi, 2021). People with low self-esteem are more susceptible to suffer from depression in the future, independently unaffected by their age or gender (Sowislo & Orth, 2013). Proper intervention plans to regulate self-esteem level are efficient

prevention plans for reducing the risk of depression among adults in the future (Orth & Robins, 2013). Having low levels of self-esteem will lead to lack of confidence towards one's self-worth and capabilities to perform certain tasks (Rouault et al., 2022).

The second predictor of this study is locus of control. Locus of control refers to the perception of an individual towards their ability or inability to control certain aspects of life (Lopez-Garrido, 2020). A perception that they themselves have full control of their life is known as an internal locus of control and those that believe they don't have full control of their life is known as an external locus of control. University students that believe in external locus of control are more likely to show signs of depression (Khumalo & Plattner, 2019). They tend to believe that most things are out of their control which might in turn lead them to believe that certain outcomes are predetermined. This will cause them to feel depressed as they feel powerlessness.. Internal and external locus of control are two different theories and not two ends of the same spectrum (Griffin, 2014). An individual with low external locus of control does not necessarily have high internal locus of control.

According to Sachs et al. (2012), hopelessness is a feeling of emptiness and a lack of hope due to their lack of ability to maintain a good expectation of their future, and to be able to regulate their own mood and comfort themselves when feeling disappointed. People with high levels of hopelessness will show low levels of motivation and generate negative perceptions towards themselves (Sahin et al, 2013). This can cause a decrease in productivity as they believe their efforts are meaningless and most will try to do the bare minimum to get by for most of their tasks such as assignments, work duty and daily tasks. Hopelessness also creates a sense of meaninglessness, which causes an individual to undervalue their presence and life. Hopelessness and depression are both significant predictors of suicidal tendencies among university students in China (Lew et al., 2019). Individuals with high levels of

hopelessness have a negative view on their future which will cause a long period of depressive mood and mood swings (Lima et al., 2021). A significant rising trend for increasing hopelessness score has been increasing among undergraduates (Lester, 2013). The relationship between hopelessness and depression is to be further investigated as they are both rising trends among undergraduates.

In conclusion, there is supporting evidence that self-esteem, locus of control and hopelessness have a direct effect on depression. This study aims to investigate the predictive effects of the three predictors on depression among university students in Malaysia. The direction of the relationship is to be further investigated as well through this study.

Problem Statement

Due to its prevalence and severity, depression is a widespread yet dangerous condition that must not be disregarded (Chan et al., 2017). Early onset and recurrence of depressive illnesses across life are common and because depression is the main contributor to disability globally in terms of wasted years to impairment, there is an increasing global desire to reduce the prevalence of depression and other psychological issues (Ngasa et al., 2017). Meanwhile, suicidal thoughts was discovered to be significantly influenced by depression in Malaysia and previous studies found a positive correlation between suicide ideation and tension, anxiety, and depression (Ibrahim et al., 2017). 20–30% of university students struggle with mental health issues annually which may have serious negative effects, including deteriorated social interaction and educational achievement, quitting out, and even suicidality while depression is the most prevalent issue with mental health among students, particularly among women (Blanco et al., 2021).

University students are not exempt from the predicted 4.4% global incidence of depression in 2015, which corresponds to even more than 1.3 billion people are suffering globally (Nahas et al., 2019). According to Yunus et al. (2021), the results showed that depressive symptoms ranged from medium to severe in 37.3% of university students in Malaysia. According to Islam et al. (2018), Malaysian university students reported an incidence of medium rate of depression is 27.5%, and severe or extremely serious depression is 9.7%. This shows that there are still many university students facing depression.

In actuality, self-worth is defined by self-esteem, which represents an individual's subjective assessment of their own value (Li et al., 2018). There are several reasons that causes university students to struggle in low self-esteem, for example, Facebook addiction (Blachnio et al., 2016); Internet addiction (Younes et al., 2016); academic performances (Arshad et al., 2015; Li et al., 2018) and personality (Kaur & Singh, 2019). Then, there are few studies also stating that low self-esteem is associated with depression (Cantwell et al., 2015; Manna et al., 2016; Nguyen et al., 2019; Sowislo & Orth, 2013). Several previous studies had conducted to examine the associations between self-esteem and depression in many countries such as Italian (Manna et al., 2016), India (Sharma & Agarwara, 2013), Belgium (Wouters et al., 2013) and African-American (Elion et al., 2012). Then, in Malaysia context, there are few previous studies implemented self-esteem and depression among adults (Maideen et al., 2014), adolescents and teenagers (Cong & Ling, 2020; Uba et al., 2020). Thus, there are insufficient studies which conducted the predictive role of self-esteem on depression particularly among university students in Malaysian context. According to a cross-sectional research carried out in Malaysia, 1017 university students who participated in the study and made up about 30% of the participants were depressed (Islam et al., 2018). The findings suggested a significant rate of depression among undergraduate medical students, with a depressive disorder frequency of 36.4% (Nahas et al., 2019).

Rotter (1954) presented a locus of control, which he described as a person's generalised expectation regarding the relationship between behaviour and consequence, or whether the outcome of an incident is influenced by a person's general belief and it is typically separated into internal and external locus of control. There has been little study in Malaysia on the relationship between locus of control and depression (Aarts et al., 2015; Khumalo & Plattner, 2019; Samani et al., 2016). In fact, few previous studies of correlation among locus of control and depression were implemented in different countries such as Botswana (Khumalo & Plattner, 2019) and Iran (Kalantarkousheh et al., 2013). In addition, in the study of Yeoh et al. (2017), it predicted that lower internal locus of control predicted Malaysian adults to have depressive symptoms instead of university students. Then, another study also conducted the correlation between locus of control and depression but it was tested among undergraduates in pandemic situations (H'ng et al., 2021). Therefore, there is a research gap; their researchers in Malaysia mainly focus on the locus of control and depression among breast cancer patients (Sharif, 2017), elderly with dementia (Khairudin et al., 2011) and generally elderly adults (Bukhari & Mahamood, 2015). This shows that there is still inadequate study conducted based on the locus of control and depression among university students especially in Malaysia context.

Few previous studies show the relationship between hopelessness and depression but in different populations. For instances, the study predicted that hopelessness and depression are significantly related to each other among Mexican-heritage women (Marsiglia et al., 2011), early adolescents (Hamilton et al., 2015), adolescents in United States (Horwitz et al., 2017), White and Black American elderly (Assari & Lankarani, 2016) and breast cancer patients (Bener et al., 2017) while in Malaysia, there was a dearth of relevant researches among university students. For example, the previous study of Malaysia context, based on Kumar et al. (2019), predicts that one of the important indicators of depression is level of

hopelessness among oncology patients. Thus, the direct correlation between hopelessness and depression among university students is yet to be confirmed.

In considering the fact that university students are particularly susceptible to depression, these findings suggested a need to investigate the impact of locus of control and self-esteem on depression in this demographic as well as the level of hopelessness in depression rates. To close this information gap, cross-sectional quantitative studies are necessary.

Significance of Study

This study is significant to fill the literature gap regarding the direct impact between self-esteem and depression among university students in Malaysia context. This study will allow researchers in Malaysia to identify the role of SE in predicting depression level among university students.... Studies done overseas such as Italian, India, Belgium and Africa America have proved that low self-esteem is associated with depression. Meanwhile, insufficient studies can be found regarding the direct impact between self-esteem and depression among university students in Malaysia context. Hence, this study can allow researchers to find out and discover the direct impact of self-esteem on depression. Not only that, researchers can discover the intervention plan for depression.

This study helps to fill the research gap regarding the locus of control on depression among university students in Malaysia context. Studies done in Malaysia mainly focus on the locus of control on depression among breast cancer patients (Sharif, 2017), elderly with dementia (Khairudin et.al, 2011) and general elderly adults (Bukhari & Mahamood, 2015).

Thus, this study can allow researchers in Malaysia to understand the relationship as well as impact of locus of control on depression among university students in Malaysia.

Not only that, this current study contributes theoretically by investigating Beck's Cognitive Triad model. There has been a lack of studies that link the Beck's Cognitive Triad model to locus of control, self-esteem and hopelessness as predictors of depression. This study attributed the three predictors each to one corner of the triad model. This study targets the Cognitive Triad model applicability on university students, which most studies implemented beck's theory

Furthermore, this study can serve as an additional resource on how self-esteem, locus of control, and hopelessness associate with depression among university students in Malaysia. Up to now, studies in Malaysia and overseas are yet to discover the impact of self-esteem, locus of control, and hopelessness on depression among university students in Malaysia. This is because the targeted population of majority of the studies are not university students. Most of the studies are focusing on patients and elderly people.

This study has a practical contribution to society. By conducting this study, it can help to raise awareness of the importance of mental health by universities in Malaysia. Severe level of depression can lead to suicidal tendencies among university students and also cause decrease in performance. Better prevention, cure and treatment plans can be implemented by the universities in Malaysia to decrease the risk of university students suffering from depression. Education sectors such as university counsellor and lecturer in general could benefit from this study.

Moreover, the present study is also important to raise awareness among university students on how mental health is being affected. Eventually, university students will be more

alert pertaining to their mental health by joining intervention plans which can lead to a positive mental health status.

Not only that, this research study is beneficial for other researchers. It can serve as references for other researchers who plan to conduct further research in the related field. As this study focuses on university students in Malaysia, therefore, other researchers may use this study for references in conducting future research in different populations and countries. Thus, other researchers may have the basic concept of the relationship between self-esteem, locus of control and hopelessness on depression.

On top of that, this present study is also significant for the policy makers. The government can refer to this research study to propose an intervention method that could help control depression among university students in Malaysia.

Research Objectives

The research objective of this study is:

To investigate the predictive roles of self-esteem, locus of control and hopelessness on depression among university students in Malaysia.

Research Questions

From the research objectives, research questions are generated:

Q1. Do self-esteem and internal locus of control negatively predict depression among university students in Malaysia?

Q2. Do external locus of control and hopelessness positively predict depression among university students in Malaysia?

Hypotheses

H1. Self-esteem negatively predicts depression among university students in Malaysia.

H2. External locus of control positively predicts depression among university students in Malaysia

H3. Internal locus of control negatively predicts depression among university students in Malaysia.

H4. Hopelessness positively predicts depression among university students in Malaysia.

Conceptual Definition

Self-esteem

Self-esteem is defined as an individual's subjective evaluation of their own self-worth, sense of self-respect and self confidence according to the degree that the individual perceives themselves positively or negatively (Park & Park, 2019).

Locus of Control

According to Reknes et al. (2019), locus of control is defined as the tendency to believe outcomes of any life events are within an individual's control. This refers to an internal locus of control. However, an external locus of control is opposite to an internal locus of control. The researcher stated that internal locus of control refers to an individual who tends to perceive the life events' results are beyond their control. The results are caused by external factors such as actions to others, fate and chances (Al Mulhim, 2021).

Hopelessness

Huen et al. (2015) defined that hopelessness as the degree of negative perceptions towards the future, and gestate the undesirable events to continue to become worse in the future. This study stated that hopelessness consists of three elements, which are motivational, cognitive and affective, it is specified by pessimistic cognitive schema and overall negative expectation towards the future (Saricali et al., 2020).

Depression

Depression refers to a mental health disorder along with persistent feelings of sadness, hopelessness, anhedonia, and guiltiness (Bernard, 2018). These symptoms tend to interfere with a depressed individual's day-to-day activities.

Operational Definition

Self-esteem

Self-esteem refers to the overall perception towards one self. The scale used to measure the level of self-esteem among university students is the Rosenberg Self Esteem Scale (RSES)

which was developed by Rosenberg (1965). According to Martín-Albo et al. (2007), RSES is a 10-item scale with 4-point Likert Scale, which ranges from 0 to 3, 0 representing strongly disagree, and 3 representing strongly agree. Total score is ranging from 0 - 30. A higher overall score indicates higher self-esteem. There are five reversed items in this scale which are item 3, 5, 8, 9, 10.

Locus of Control

Locus of control refers to the extent to which the individual believes they have control over their life events (internal locus of control) or beyond their control such as chances and fate (external locus of control).The scale chosen to measure the locus of control among university students in Malaysia is Adaptive Levenson's Multidimensional Locus of Control Scale, which developed by Levenson (1976), and modified by Oguntuase and Sun (2022) to categorise the scoring into two subscales, which are internal locus of control and external locus of control. The scale contains 24 items that access two subscales which are internal locus of control and external locus of control. ALMLCS uses a 6-point Likert scale which ranges from 1(*strongly disagree*) to 6(*strongly agree*). High rating on internal locus of control subscale indicates having high internal locus of control, high rating on external locus of control subscale indicate high external locus of control (Oguntuase & Sun, 2022).

Hopelessness

Hopelessness is defined as a feeling of state and despair about an individual's future life events. The scale used to measure the level of hopelessness among university students is Herth Hope Index (HHI), which was proposed by Herth (1992). HHI is a 12 item measure that uses a 4-point Likert scale system to measure an individual's degree of negative expectation towards the future. The scale has a global score range from 12 to 48, with each item ranging

from 1 to 4. Higher scores indicate a higher level of hopelessness and increased negative expectation.

Depression

Depression refers to a mental illness that can negatively affect one's feelings, thoughts and emotions. Depression can be assessed by the Patient Health Questionnaire-9 (PHQ-9), which is developed by Kroenke and Spitzer (2002) . PHQ-9 is a 9-item self report questionnaire with 4-point Likert scale, which ranges from 0 (*not at all*) to 3 (*nearly every day*). Higher total score indicates severe depression.

Chapter 2

Literature Review

Conceptualization on Depression

Depression refers to a common mental health disorder, some obvious symptoms would be rapid mood changes, and cognitive and physical symptoms over a period of at least 2 weeks (American Psychiatric Association, 2022). Depression is a mental disorder as it may lead to many other impairments in basic function such as cutting off contact with peers, unable to focus on work and not taking the initiative to socialise with others (Ibrahim et al., 2013). According to the American Psychiatric Association (2013), DSM-5 characterised the criteria below as symptoms of depression, loss of interest, poor quality of sleep, feeling tired, feeling sad, and so on. The exclusion criteria include symptoms conveyed by the individual that did not cause significant distress or impairment in basic areas of function in life, depressive episodes are credited to physiological effects due to substance consumption or other medical conditions, and individuals do have a history of manic or hypomanic behaviours. According to Kumar et al. (2012), biological factors, environmental factors, psychological factors, gender differences, mental health conditions and developmental disabilities are some of the factors contributing to depression. Women are more likely to suffer from depression, however, men are more likely to reject treatment for depression.

The topic of depression within university students is one that affects many people nationwide (Sarokhani et al., 2013). With diverse educational, economic, and personal constraints, the loss of conventional social guidance and supervision, living with other students, and peer connections, university is an essential but transitory time of life while these changes may raise the risk of depression. Since depressive symptoms have a negative impact on student, have a negative impact on one's health, and in some severe circumstances can

result in suicide, depression is a critical issue that has received attention among university students (Chen et al., 2013). Based on Othieno et al. (2014), depression on its own is responsible for more than 40% of all mental problems, along with mental, neurology, and addiction disorders, which together account for 13 percentage points of the worldwide illness burden. In addition, to affect students' ability to learn professional and social skills, depression in students has also been linked to a higher risk of other issues, such as greater alcohol intake, and greater suicidal thoughts. These effects may have an effect on students' ability to advance in their careers (Davies et al., 2016).

Conceptualization on Self-esteem

According to Branden (2021), each of us possesses a strong energy known as self-esteem and it includes a lot more than just the innate sense of self-worth that comes before it. Self-esteem has been more explicitly defined as self-belief in our capacity to think, feeling capable, deserving, and able to express our needs and expectations. Self-esteem, according to William James, a leading pioneer of Western psychology, is crucial to mental wellness (James, 1968). High self-esteem includes both those who openly acknowledge their positive traits and those who are egotistical, defensive, and pompous (Arshad et al., 2015). According to Younes et al. (2016), self-esteem is defined as one's assessment of oneself and the way one believes about oneself in practically all circumstances and low rates of social interaction and assistance will consequently result in lower levels of self-esteem. Then, Blascovich et al. (1991) stated that valid measuring of self-esteem is challenging due to conceptual and methodological issues. Self-esteem, like other significant ideas, is employed simultaneously in both everyday language and academic psychology, which can lead to conceptual ambiguity (Blascovich et al., 1991).

People who have strong self-esteem have favourable opinions of themselves. Compared to people with weak and low self-esteem, they are considered more competent and psychologically healthier (Bibi et al., 2016). These authors also stated that self-evaluation is predicated on an individual 's expectations of their personal selves, but other people's opinions also play a significant impact and it was discovered that individuals perceive their achievements and failures in unique ways. Compared to individuals who have low self-esteem, those with high levels of self-esteem see matters more favourably and rationalise their actions. For example, according to Wani and Dar (2017), people who have high levels of self-esteem are much more inclined to seek out and accept greater social help, feel less stressed and use more effective coping mechanisms, all of which contribute to a healthy lifestyle.

Conceptualization on Locus of Control

Locus of control refers to the perception of an individual towards their ability or inability to control certain aspects of life (Lopez-Garrido, 2020). There are two constructs to locus of control, one of them believes in internal locus of control and one in external locus of control. Internal locus of control refers to an individual's belief that they are the one in control over the outcome and most situations in their life. As for external locus of control, they believe that they do not have full control over their life events. External locus of control can be further divided into two groups which are those that believe in luck and one that believes that the ones in control are those with higher authority and the ones holding high power.

Individuals with internal locus of control will show higher levels of self-control and self-efficacy (Alias, 2016). They believe in their ability to control their own fate therefore

they are more willing to take action and control their future by putting in effort. According to a study done among engineering students from University Tun Hussein Onn Malaysia, students with internal locus of control are able to perform better in terms of academics, which is reported by their CGPA scores (Alias, 2016). Locus of control has an effect on students' perceived usefulness of learning method, perceived ease of adopting the learning method and perceived ability to practise said learning method (Hsia, 2016). Individuals that highly believe in the outcome being controlled by powerful authorities will have a higher likelihood of developing depression (Yu & Fan, 2014). Stronger believers of internal locus of control will have lesser belief towards superstition, the opposite is true for believers of external locus of control which believes in fate and superstition (Sagone & De Caroli, 2014).

Conceptualization on Hopelessness

Aaron Beck introduced the concept of hopelessness in 1963, he discovered that depressed individuals tend to have negative perceptions towards themselves and their future (Beck, 1963). According to Sachs et al. (2012), hopelessness refers to feeling empty and a lack of hope due to inability to maintain a good sense of object, and to produce self-comforting feedback when feeling disappointed. Hopelessness is at death's door which is interconnected with the health of patients, hopelessness is a dysfunctional attachment to a lost hope (Sullivan, 2003). Signs of hopelessness included persistent negative emotions and expectation, and avolition towards the future. Feelings of hopelessness can lead to negative appraisal of new circumstances and ineffective coping mechanisms, hence, the individual is not seen as accomplishing anything meaningful (Sahin et al., 2013).

Not only that, hopelessness can increase stress and lead to a negative perception towards the future. According to Beck (1967), hopelessness is meant by the tendency of an

individual to misconceive the life events negatively and expect the worst outcome out of their every problem. They might perceive their situation as more dire than it is, for example cancer patients might believe that they are suffering from an illness that does not have a cure or might lack belief in their treatments. Initiation of self-harm, risk of repeat self-harm, and suicide has linkage to feelings of hopelessness (Steeg et al., 2016). People that have suicidal tendencies are more likely to suffer from hopelessness, they perceive suicide as a method of escaping their suffering because they feel that their future is bleak.

One of the causes of feeling hopelessness is environmental factors, such as bullying. According to Dilmaç (2017), cyberbullying has a significant positive relationship with hopelessness. Victims of cyberbullying are more likely to experience hopelessness, anger, fear and so on. Participants in a study by Brandau and Davis (2018) reported that they experienced hopelessness when they fell victim to cyberbullying. Hopelessness will increase due to exposure of cyberbullying (McField et al., 2022).

Self-esteem and Depression

Numerous depression concepts assert that poor self-esteem is a potential sign of depression and it has a significant impact on the aetiology of depressive illnesses (Orth & Robins, 2013). These researchers also determined that the vulnerability model (poor self-esteem promotes higher level of depression) is extremely supported by the previous evidence. According to Prihadi et al. (2020), the researchers also indicated that self-esteem is one of the predictors of depression as based on the findings of a meta-analysis of long-term studies, people with poor self-esteem are more likely to look for criticism from others in order to validate their depressive thoughts. Hence, the study shows that university students who have lower self-esteem are more likely to suffer from depression.

Based on Aboalshamat et al. (2017), the study predicted that poor self-esteem is negatively correlated with depression among medical students. This is because the researchers determined that it was discovered that the only medical students with considerably better self-esteem than the rest were those from wealthy backgrounds. Since future surgeons and medics will be deciding cases that have a major impact on their patients' health and well-being, this outcome should be regarded with curiosity and worry. Condition self-esteem strongly indicated depression severity and if condition self-esteem was taken into account, mattering strongly indicated a level of depression among university students (Prihadi et al., 2020).

The difficulties and dangers that exist in the educational setting are closely related to two concepts: self-esteem and susceptibility to depression among freshman university students (Negovan & Bagana, 2011). The results showed that there were considerable variations in students' self-esteem depending on both personal and intellectual tendencies contributing to depression and environmental and situational factors. Low levels of self-esteem have been linked to the emergence of depression. According to research, those who have poor self-esteem are more likely to engage in risky behaviours or unsuitable coping mechanisms, which raises their chance of developing depression (Yap et al., 2021). This study also compared the students of other racial groups, including students from the West, Asian students are much more frequently reported to have poorer self-esteem. This is because Chinese parents in particular have a tendency to apply tough, authoritarian parenting methods that are achievement-focused and frequently demand that their kids perform exceptionally in school. These students may encounter anxiety and low self-confidence when they fall short of their parents' desired standards.

In conclusion, most of the previous studies indicated that self-esteem has negatively associated with depression which means that the lower the self-esteem of oneself, the higher the level of depression.

Locus of Control on Depression

Depression was found to be positively correlated with external locus of control, individuals that have high external locus of control will have higher likelihood to suffer from depression. If an individual is highly dependent on external locus of control and believes that their fate is in the hands of powerful authorities, they will also be at risk of developing depression (Khumalo & Plattner, 2019). Research supports the theory that there is a relation of locus of control of depression. A study in the Netherlands, has findings that support higher levels of external locus of control will lead to more depressive behaviours in comparison to those with internal locus of control (van Dijk et al., 2013). A meta-analysis on the relationship of locus of control and depressive symptoms has found that external locus of control are more likely to predict depressive behaviours (Cheng et al., 2013). Another study findings by Sakthivel (2022), supports that external locus of control positively predicts depression among university students. Individuals will feel depressed with the inability to control their own fate and future, which indicates their effort is meaningless.

Although there are those that believe in external locus of control and fate, however there are still people in those groups that will still strive hard to create better outcomes or build a smoother path (Yeoh et al., 2017). Cultural beliefs and context are important in terms of generating their own interpretation of locus of control which can be the reason why internal locus of control and external locus of control are theoretically sound to be predictors of depression. There might be those that are relieved of their lack of control over certain

situations in life and have a calmer view towards their life. There is negative correlation between locus of control with suicide intention (Aviad-Wilcheck, 2021). Patients that suffered from chronic disease showcased a negative and significant relationship between locus of control and depression, high level of internal locus of control will lead to lower depression (Baitina & Musthafa, 2019). This can be attributed to their belief in their own ability to make changes to their fate and recover from chronic illness.

This study seeks to uncover the relationship between internal locus of control and external locus control with depression. As there are many opposing result studies which support either side of the study.

Hopelessness on Depression

Hopelessness is one of the key concepts of Beck's Cognitive Triad, and it serves as a symptom of depression (Beck, 1967). According to Sahin et al. (2013), hopelessness is associated with depression. For example, linkage of hopelessness and depression was found in patients with metastatic cancer (Gheihman et al., 2015). They might feel that their treatment is not making significant progress or visible progress, therefore giving them a sense of hopelessness in curing their cancer. Thus, it will lead to depressive thoughts and behaviours such as lacking motivation in mundane daily tasks and decrease in appetite.

University students who experience hopelessness tend to react negatively to stressors, and more likely to feel depressed, and eventually perform suicidal behavior (Lew et al., 2019). Severe depression can lead to suicidal ideation and increased chance of committing the act itself. Feeling of hopelessness is categorised as part of the depressive symptoms, and leads to a depressed mood (Zahn et al., 2015). Study by Assari and Lankarani (2016) has

found that hopelessness is a risk factor and is associated with depression. The authors claimed that individuals without depression have a lower level of hopelessness than those with depression. This showed the association between hopelessness and depression.

According to Pretorius (2021), hopelessness is found to be a significant contributing factor in the formation of depression. Based on a longitudinal study by Horwitz et al. (2017), hopelessness is confirmed to be a predictor of depression. Hopelessness is positively related to depression (Lima et al., 2021). The authors reported that signs of depression include feelings of hopelessness and depressed mood. Those that suffer from feelings of hopelessness might view their situation worse than it actually is. This will lead to them feeling emptiness due to their inability to fix their situation or overcome their challenges, causing them to have a long period of feeling sadness. Individuals with a high level of hopelessness will be at high risk of developing depression, due to their association of a wide range of negative moods (Assari & Lankarani, 2016).

All in all, the majority of the studies indicate that hopelessness has a significant positive association with depression. In other words, individuals with a high level of hopelessness tend to have a high level of depression. Hence, the current study hypothesised that depression is significantly predicted by hopelessness and is significantly correlated with hopelessness among university students in Malaysia.

Conceptual Framework

Figure 1

Conceptual Framework

In this research study, there are three predictors, self-esteem, locus of control & hopelessness serve as three predictors while the outcome variable is depression. This study hypotheses the three variables which are self-esteem, locus of control (external, internal) and hopelessness significantly predict depression among university students in Malaysia.

The current study builds on the Beck's Cognitive Triad concept whereby locus of control can depict having negative views about the world, self-esteem is representing negative views about oneself (Neff, 2011) and hopelessness is representing negative views about the future (O'Connor & Cassidy, 2007). To represent the negative views towards the world in Beck's cognitive triad, individuals within both ends of the spectrum of locus of control will tend to associate and generalise their experiences into either group. This will lead them to have negative perceptions towards the world whether they feel that fate or the powerful others that are controlling their life are dealing them a bad hand, which enhance their negative perception towards the world (Tsuda et al., 2020). Meanwhile, those with higher internal locus of control are predicted to be more likely to be diagnosed with depression. Hence, the application of Beck's Cognitive Triad in the research study is able to investigate whether self-esteem, locus of control and hopelessness predicts depression among university students in Malaysia. Beck's Cognitive Triad was integrated into this research study as the variables of this research study are related to the key concept Beck's Cognitive Triad concept (Beck et al., 1979).

According to Hollon and Beck (1979), having negative views about the world refers to maximising their failure and minimising their success. External locus of control defined as people believe that their lives are governed by luck, fate, or other external factors like the power of others (Kobayashi & Farrington, 2020). Having an external locus of control would cause an individual to feel that they do not have the power to control most of their situation and outcome therefore feeling the world flow and order is going against them (Nieben et al., 2022). This will cause them to have a negative view towards the world and feel powerless. Therefore, external locus of control might affect the mental health in oneself such as depression. According to a study done by Bagherian, Ahmadzadeh and Baghbanian (2009), there are positive correlations between powerful other (external) locus of control and depression. Then, this study also reported that although external locus of control had a positively weak relationship to depression, there was also a positive relationship to depression (H'ng et al., 2021). According to van Dijk et al. (2013), participants with low level of external locus of control were less likely to have depressive symptoms than participants with high level of external locus of control. The findings of the study done by Khumalo and Plattner (2019) highlighted locus of control as one of the cognitive factors linked to depression.

There is another type of locus of control which is the internal locus of control. People who have an internal locus of control typically think that their actions determine how things will turn out and typically think that everything depends on them (Nieben et al., 2022). According to Musich et al. (2022), the internal locus of control has been linked to healthier feelings and emotions and can act as coping mechanisms. Thus, internal locus of control also might affect oneself mental health like depression. One of the studies stated that internal locus of control are significantly related to depression (H'ng et al., 2021). Then, this study

reported that internal locus of control was importantly associated with depression (Okwaraji et al., 2017).

The second negative view in Beck's cognitive triad which is negative views about oneself which is represented by the self-esteem of the individual. Negative views towards oneself in Beck's cognitive triad refers to an individual's negative perception towards their self-worth. Having a low self-esteem can cause negative views about oneself. Self-esteem is defined as the confidence an individual has in their own worth or abilities (Branden, 2021). People that are depressed show more negative and critical thoughts about themselves in comparison to those that are not depressed (Beshai & Dobson, 2012). Low self-esteem and negative views about oneself causes low confidence in oneself which might lead to depression. According to the study by Ho and Hoang (2021), self-esteem was significantly negatively correlated with depression.

The third negative view which is negative views about the future. The concept of future is understood as the most salient depressive symptom where people feel desperate for their future events (Hollon & Beck, 1979). Hopelessness is known as the feeling or state or despair, feeling lack of hope of what the future brings (Szabó et al., 2016). Based on Salami and Walker (2014), depressive symptoms were significantly correlated with higher levels of hopelessness. Other than that, the correlation between hopelessness and depressive symptoms was significant among university students in this study (Lamis et al., 2014). This can cause an individual to feel that their future is bleak, feel despair and not be motivated for any upcoming events in their life. Which will lead to depression as they will constantly be in a low mood, feeling disinterest and feeling pessimistic all the time (Liu et al., 2015). Therefore, hopelessness is seen as negative views about the future.
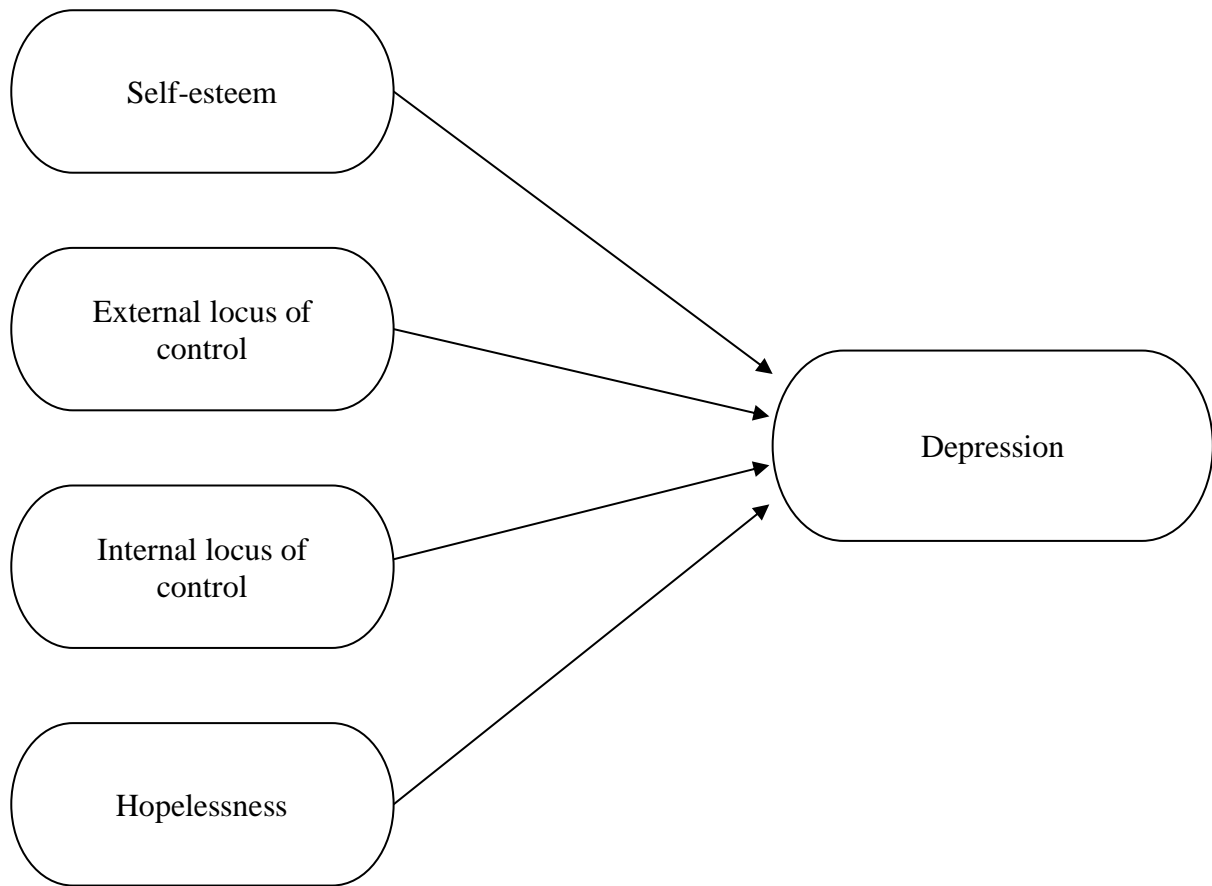
Theoretical Framework

According to Haaga and Beck (1994), Cognitive Theory of Depression determined that impairments in information processing maintain depressed people's persistently pessimistic perceptions and expectancies in the face of contrary facts such as selective abstraction and overgeneralization. Meaning that, in addition to "complaining about oneself," depressed persons frequently reflect misconceptions based on abnormal information processing methods which will cause them to negatively view most of their life experiences . Cognitive theory considered depression as mostly a mental disorder instead of an affective one (Ziegler, 2005).

According to Beck's Cognitive Theory of Depression by Beck et al. (1979), the theory introduces three specific concepts to explain depression. Depression can be explained by one of the concepts, called the concepts of cognitive triad. The key concept of Beck's

Cognitive Triad is that the causes of depression can be categorised under three categories of negative views, which are negative views about oneself, negative views about the world and negative views about the future. Three of the predictors chosen for this study had each represented one side of the triangle.

The first component in Beck's Cognitive Triad is negative views about oneself. According to Beck et al. (1979), the depressed individual will see himself or herself as someone incompetent. Hence, they believe that they are not valuable and underestimate their self worth. Causing them to generate lesser productivity due to the negative mindset, low level of self-trust are shown to lead to having lower academic performance (Arshad et al., 2015). An increase in self-esteem can lead to having better academic performance (Mohsen, 2017).

Negative views about the world is the second component in Beck's Cognitive Triad. A depressed individual tends to think of his own personal experience in a negative way, they tend to overlook their right in most situations (Beck et al., 1979). Having a negative view about the world refers to an individual maximising their wrongdoing and minimising their success. They would overcomplicate and misinterpret most situations and interaction with other people, due to their tendency to overthink. This can be seen in situations where depressed patients tend to overcomplicate their own situation and immediately assume the worst outcome. The depressed person is unable to see their own bias in judging themselves because they believe they are not capable and worthy of good things happening to them. They would need someone to point out their own bias in their judgement so that they can realise they have modified the facts and make the situation seem worse than it is to better match their scenario.

The third component in Beck's Cognitive Triad would be a negative view of the future. Beck et al. (1979) stated that the depressed person will expect a failure outcome whenever they think about their future events. The depressed people tend to project their current crisis to continue in the future. Impoverishment, privation and irritation are under their expectation (Beck et al., 1979).

In conclusion, depressed people perceive themselves as pessimistic and clueless. Beck et al. (1979) claimed that they believe that they are a burden for others. Worse still, the three negative thoughts can lead to suicidal ideation. Depression can be a significant predictor of suicidal ideation (Perwin & Ferdowshi, 2016).

Figure 2

Beck's Cognitive Triad Framework

Negative views about
the world

Negative views about
oneself

Negative views about
the future
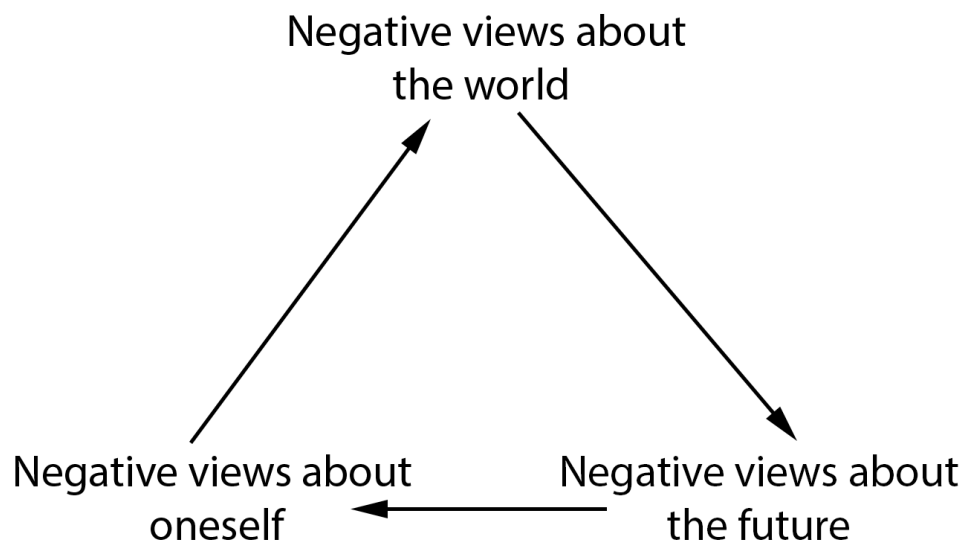
Chapter 3

Methodology

Research Design

This study has implemented a quantitative and cross-sectional research design to examine the predictive role of self-esteem, hopelessness, internal locus of control and external locus of control on depression among university students. According to Lorenzetti (2007), testing hypotheses and determining how variables relate to one another or how they affect particular outcomes are the main goals of quantitative research. Quantitative design aims to obtain quantitative information and apply it to broad groups of individuals (Sibanda, 2009). Quantitative research method involves collecting, analysing and interpreting data to gain a complete understanding of an event, circumstance, fact or condition (Apuke, 2017). A quantitative approach has been used to conduct this research, by disseminating a self-administered survey questionnaire to collect data and using SPSS output to generate the data. Values of the data were analysed in this study to gain the complete understanding of how the predictive roles which were self-esteem, internal and external locus of control and hopelessness towards depression.

According to Levin (2006), cross-sectional study is undertaken frequently for the sake of global health management in order to assess the incidence of the desired outcome for a specific group. Along with information related to the outcome, data on a person's characteristics, such as their exposure to risk factors are gathered.This research design is appropriate to use in this study because researchers simultaneously assess the study individuals' exposures and outcomes (Wang & Cheng, 2020). There are numerous uses for cross-sectional research, and the cross-sectional design serves as the most pertinent design once determining the incidence of disease, patient and healthcare professional behaviours and

knowledge in validation of psychometric properties (Kesmodel, 2018). There are two different types of cross-sectional design which are descriptive and analytic. Descriptive research is related to a study designed to gain an overview of the characteristics of a particular group, the data collected are presented in the type of numerical scores that may be analysed and evaluated (Gravetter & Forzano, 2018). This research used descriptive research to figure out people's attitudes, knowledge, or health - related behaviours, while analytical studies sought to evaluate correlations between various elements. This is because the variables of this study (self-esteem, hopelessness, internal and external locus of control, depression) all correlate with the likelihood of illness due to depression predicted by oneself's attitudes and cognitive. Thus, cross-sectional study is appropriate to implement in this study.

Hence, online surveys and cross-sectional design have been used in previous research to examine the links between depression and some other variables that have predictive power which used the same strategies (online survey and cross-sectional design) in this study (Alyami et al., 2021; Liu et al., 2022; Wang et al., 2020).

Sampling Method

The sampling approach that applies in the current study is non-probability sampling. Non-probability sampling method is described as a technique that is absent of randomization, and it mostly relies on the basis of the researcher's judgement (Showkat & Parveen, 2017). In other words, participants are selected based on the researcher's preference. This shows that non-probability sampling is unable to represent the whole population as it is not able to achieve generalisation purpose (Elfil & Negida, 2017).Then, non-probability sampling is applicable for this current research. Quota sampling, convenient sampling, purposive

sampling, judgemental sampling and snow-ball sampling are categorised under non-probability sampling method. The advantages of adopting non-probability sampling include it is cost-effective, effortless and time-saving (Alvi, 2016).

Purposive sampling method was used in this current study. A variety of non-probability sampling strategies are included under the heading of purposive sampling method. According to Rai and Thapa (2015), purposive sampling, also referred as judgement, selective, or subjective sampling, depends on the study's judgement when choosing the components (such as persons, cases/organisations, events, or items of data) that are going to be researched. It is the purposeful selection of an informant based on the informant's personal characteristics (Tongco, 2007). The purposive sampling method was chosen by this current study as there are inclusion criteria for participants to collect data from. Therefore, current study has few inclusion criteria to select the participants for example (a) Malaysian (b) is a university student aged 18 and above (c) participants residing in Malaysia at the time of filling in the form and (d) participants who consented for their data to be used in the study. The targeted sample group would need to fulfil the criteria therefore the sampling method is purposive and targeting. Then, there are few previous studies which involved depression using a purposive sampling method to enlist participants (Goudarzian et al., 2018; Priyamvada et al., 2015; Rizvi et al., 2015; Syed et al., 2018). According to Bukhari and Saba (2017), which was the past study on depression also recruit their participants which are Malaysian university students using purposive sampling method. Another example in Malaysia context, the researchers also used a purposive sampling method to recruit their participants (university students) on depression (Selvaganapathy et al., 2017). Thus, the purposive sampling method is appropriate to implement in current study as there are few examples of past studies conducted both in Malaysia and other countries that used this sampling method on depression.

Sample Size

G*Power version 3.1.9.7 was used to determine the number of participants required by this study, it helps in determining the minimum sample data that we need to collect for a significant statistical power. G*Power is a calculation programme developed by Erdfelder et al (1996). The formula used to calculate the effect size (f^2), also known as the strength of the relationship between independent variables and dependent variables is $f^2 = R^2/ 1 - (-R^2)$. There are four components in the input parameters of G*Power software, which are effect size, error probability of alpha, statistical power and number of predictors.

The effect size of the respective predictors is calculated using the formula $f^2 = R^2/ 1-(R)^2$ and the average of all four predictors' effect size is the total effect size (refer to Appendix A). The average effect size is .252 with a .05 probability of alpha error and .95 statistical power. There are four predictors which are self-esteem, hopelessness, internal locus of control and external locus of control. The correlation coefficient scores are -0.426, 0.610, -0.290, and 0.400 respectively. The final calculated minimum number of sample participants needed according to the G*Power calculation is 79 (refer to Appendix B).

Location

The chosen location where this study will be conducted to collect data from is in Malaysia. All participants of the study are residing in Malaysia at the time of data collection. The data will be collected through distributing the survey links to several platforms, such as Facebook, Instagram, WhatsApp, and Microsoft Teams.

Participants

The targeted participants are male and female university students in Malaysia, who are currently pursuing their degree or master studies. The inclusion criteria of this study are Malaysians that are university students of any field of study. The participants must be aged 18 and above. All participants should reside in Malaysia at the time of filling in the form. The participants must consent for their data to be used in the study. This study had recruited 95 Malaysian university students. The age range of the participants is from 18 to 28 years old ($M = 21.57$, $SD = 1.46$). 95 of them were 91 Chinese, 1 Indian and 1 Malay. Among 95 respondents, 94 of them are pursuing bachelor 's degree and 1 pursuing master's degree. 88 of the respondents are from Unicersiti Tunku Abdul Rahman, 2 of them are from INTI, another 2 of them are from Sunway University, and the last 3 are from Monash University, University Malaya and Universiti Kebangsaan Malaysia. Then, 30 of the respondents from Year 1 of study, 23 of them are from Year 2 of study, 41 of them are from Year 3 of study and only one is from Year 4 of study.

Data collection procedures

Before initiating the data collection process, an ethical clearance application will be applied by the researchers to seek permission from the UTAR Scientific and Ethical Review Committee (SERC) to achieve the objective of this study.

The sampling method which will be implemented is a non-probability sampling method. This is due to its effortless, time-saving, and inexpensive in the data collection process and to better target the sample group of university students. The instruments chosen for this study are Rosenberg Self Esteem Scale (RSES), Adaptive Levenson

Multidimensional Locus of Control Scale (ALMLCS), Herth Hope Index (HHI) and Patient

Health Questionnaire-9 (PHQ-9) to measure the independent variables and dependent

variables.

A web-based survey tool, Qualtrics will be administered using the four instruments

mentioned above. Participants' age, gender, race, current university and year of study are data

that will be collected as well. Participants consent will be requested for their data to be used

in the study. The link to the survey will be sent through Microsoft Teams, email and social

media platforms such as Facebook, WhatsApp and Instagram. This is to obtain the

participants' response immediately. Participants will be identified by the group members of

the study and sent to them personally through the platforms mentioned above. The

researchers will ask several questions before distributing the survey links. This is to identify

the potential participants. The questions include "Are you a university student?", "Are you a

Malaysian?", "What course are you currently taking?"

Pilot Study

A pilot study was conducted before this actual study to test the feasibility of study

being accomplished. A pilot study is a separate smaller version of the actual study that is

done to test whether the actual study can be accomplished. For the pilot study, 50 participants

have been recruited and their data is collected through Qualtrics. The questions included in

the survey are informed consent, demographic details, Rosenberg's self-esteem scale, adapted

Levenson's multidimensional locus of control scale, Herth hope index and patient health

questionnaire-9. The survey link was distributed through WhatsApp, Instagram and physical

QR code.

Actual Study

The actual study is then conducted after reviewing the pilot study and discovered that there has not been any major issues that need to be changed by the researchers. The Qualtrics survey link is then distributed in the same manners as the pilot study. The collected data were then cleaned and then analysed using IBM SPSS Statistics 23 computer software.

Instruments

Rosenberg Self Esteem Scale (RSES)

RSES is a uni-dimensional scale which was developed by Rosenberg (1965) which assesses the level of self-esteem among university students. RSES consists of 10 items with 4-point Likert Scale, which range from 0(*strongly disagree)* to 3(*strongly agree)*. The final score of RSES is summing up the score for each item. The total scores range from 0 to 30 , with higher scores indicating higher self-esteem. Items 3, 5, 8, 9, 10 are reversed items. The RSES demonstrates an excellent internal consistency with Cronbach's alpha of .92; over a period of two weeks, test-retest reliability shows correlations of .85 and .88 (Rosenberg, 1965). The scale includes items such as "On the whole, I am satisfied with myself", "At times I think I am not good at all", "I feel that I have a number of good qualities", and "I am able to do things as well as most other people".

Adapted Levenson Multidimensional Locus of control scales (ALMLCS)

The Adapted Levenson Multidimensional Locus of Control Scale (ALMLCS) was developed by Levenson (1976). It is then further adapted by Oguntuase and Sun (2022) to

categorise the scoring into two subscales which are internal and external instead of three. The scoring of the powerful others scale and the chance scale is combined to form the external locus of control scale which totaled to 16 items. There are 8 items measuring the internal locus of control. It is a multidimensional scale to access the locus of control. ALMLCS contains 24 items which assess two subscales, internal locus of control and external locus of control. ALMLCS uses a 6-point Likert scale which ranges from 1(*strongly disagree*) to 6(*strongly agree*). A higher score on the Internal Locus of Control subscale indicating strong internal locus of control. Meanwhile, high ratings on the external locus of control subscale indicate a strong external locus of control. ALMLCS showed a high reliability of .88 (Oguntuase & Sun, 2022).There are eight items measuring internal locus of control and 16 items measuring external locus of control. The examples of the items for internal locus of control are "Whether or not I get to be a leader depends mostly on my ability", and "Whether or not I get into a car accident depends mostly on how good a driver I am". The examples of the items for external locus of control include "I feel like what happens in my life is mostly determined by powerful people", and "To a great extent my life is controlled by accidental happenings".

Herth Hope Index (HHI)

HHI is a unidimensional scale constructed to measure the hopelessness of an individual. It was developed by Kaye Herth in 1989, items 2 and 4 were modified in 1989 to be more concise and clearer. The HHI has 12 items and uses a 4-point Likert scale system that ranges from 1(Strongly Disagree) to 4(Strongly Agree). It is adapted from the Herth Hope Scale (Herth, 1992). Hopelessness refers to the degree of negative expectation the individual has towards the future. The higher the level of hopelessness, the higher and more

likely the expectation of negative outcomes for their future. The HHI is found to have strong internal consistency, with a Cronbach's Alpha value of 0.85 (Ishimwe et al., 2020). It also has good test-retest reliability with a score of 0.91 (Sánchez-Teruel, 2020). Some examples of the items in the scale are "I have a positive outlook toward life", "I feel all alone", "I feel scared about my future" and "I have a sense of direction".

Patient Health Questionnaire-9 (PHQ-9)

PHQ-9 developed by Kroenke and Spitzer (2002) was to measure the depression severity. It is unidimensional and a 9-item self-report questionnaire. It is a 4-point Likert scale, ranging from 0 (*not at all*) to 3 (*nearly every day*). The total score is summing up all items. Scores between 0 and 4 represents none depression, scores between 5 and 9 suggest a mild depression, scores from 10 to 14 indicate a moderate depression, scores from 15 and 19 represent a moderately severe depression, and scores over 19 indicate severe depression. The test-retest reliability of the PHQ-9 is satisfactory with a value of 0.84, with the retest being done within 48 hours (Kroenke et la., 2001). The internal consistency of the items in the PHQ-9 scale was 0.85, which indicates a strong relationship between the items (Adewuya et al., 2016). "Little interest or pleasure in doing things", "Feeling down, depressed or hopeless", "Trouble falling or staying asleep, or sleeping too much", and "Poor appetite or overeating" are the examples of the items.

Data Analyses

Data Cleaning

A total of 123 participants' data were collected for this actual study. 22 of them were removed due to incompleteness of the response or submitting blank answers. The rest of the 101 participants all fulfilled the criteria of this study, which are i) Malaysian and ii) currently a university student. Out of these 101 participants, 6 more participants are removed due to their data being univariate outliers. Their data have extreme values that have fallen outside of the expected population values for a single or more variables and not removing them may affect the results of the statistical analysis (Mowbray et al., 2019). Boxplot and eye test were used to determine these univariate outliers. The final number of participants data that were used in this study are 95 participants.

Descriptive Statistics

Descriptive statistics of the demographic of participants are displayed using SPSS. The demographic data of participants that are collected are i) age, ii) gender, iii) race, iv) name of institution, v) education level and vi) year of study. The frequency of participants and percentage were calculated for all the data above, meanwhile the mean and standard deviation of age were displayed as well.

Besides that, descriptive statistics of the four variables i) self-esteem, ii) locus of control, iii) hopelessness and iv) depression were calculated as well. The minimum value, maximum value, mean and standard deviation of the four variables are shown in table form.

Normality Test

An assumption of normality test was conducted prior to the actual data analyses. The normality assumption is the expectation that the data collected follows a normal distribution (Kim & Park, 2019). Five indicators are used to determine whether the data results obey the normality assumption. The five indicators are i) histogram, ii) skewness, iii) kurtosis, iv) Q-Q plot and v) Kolmogorov-Smirnov Test.

Histogram. The histogram is used to test the distribution of the data, an ideal normal distribution should follow a bell-shaped curve with the peak being at the middle of the data distribution (Das & Imon, 2016).

Skewness. Skewness refers to the direction the data distribution slant to. A negative skewness will have a heavier distribution on the left side of the distribution and a position skewness will have a heavier distribution on the right side. The ideal skewness value is 0, however a value between the range of -2 and +2 will still be accepted, according to recommendation by George and Mallery(2010).

Kurtosis. Kurtosis refers to the sharpness of the peak of the distribution curve. A positive kurtosis indicates a higher peak with short but thicker tails, meanwhile a negative kurtosis indicates a shorter peak with long but thinner tail ends. The values between -2 and +2 are considered acceptable for a normal distribution (George & Mallery, 2010).

Quantile-quantile plot. Also known as Q-Q plot, is a measure that uses visual display of quantiles of distribution of data collected compared against quantiles of normal distribution. The data is considered normal when all the points fall within the proximity of the straight line (Das & Imon, 2016).

Kolmogorov-Smirnov Test (KS Test). KS Test is a non-parametric test that tests normality if its p-value is more than .05 (Ghasemi & Zahediasl, 2012). A p-value of less than .05 indicates that the data is not significant.

Multiple Linear Regression (MLR)

Multiple Linear Regression was used to analyse the linear relationship between the four predictors (self-esteem, internal locus of control, external locus of control and hopelessness) and one outcome variable (depression) in this study. 7 assumptions of MLR are tested, i) multivariate outliers, ii) variable types, iii) multicollinearity, iv) independence of residuals, v) homoscedasticity, vi) normality of residuals and vii) linearity of residuals.

Multivariate Outliers. Mahalanobis distance, Cook's distance and centered-leverage value were used to determine multivariate outliers in this study. The cut off point for Mahalanobis distance is >15, benchmark for Cook's distance is not more than +1 and the range of centered-leverage value is within .0656 (Barnett & Lewis, 1978; Cook & Weisberg, 1982; Hoaglin & Welsch, 1978). If any of the value is invaded then the case will be removed.

Variable Types. The variables tested in this study are all continuous quantitative variables, which fulfilled the requirement of multiple linear regression (Berry, 1993).

Multicollinearity. Multicollinearity refers to the degree of correlation between one predictor variable with another predictor variable (Daoud, 2017). A high correlation between two variables signifies that there is no need for one of the variables as it could be accurately predicted from another variable. Tolerance and VIF value are used to determine the multicollinearity of the variables. Value of VIF exceeding 10 will represent multicollinearity

(Senaviratna & Cooray, 2019). Value of tolerance less than 0.1 will represent multicollinearity.

Independence of Residuals. Independence of residuals are tested with Durbin-Watson statistics, which measures the assumption that the residual terms should be uncorrelated with one another (Williams et al., 2013). The test scores can range from 0.0 to 4.0, with an acceptable range of 1.5 to 2.5.

Homoscedasticity. Homoscedasticity refers to the distribution of residuals being equally distributed across the horizontal line (Osborne & Waters, 2002). Homoscedasticity is tested using the scatterplot, the even spread of the scatterplot across the horizontal lines will indicate homoscedasticity is achieved.

Normality of Residuals. Normality of residuals refers to the normal distribution of residuals in the study. Normality of residuals is tested using the scatterplot, the residuals being mostly placed in the centre of the horizontal zero line will indicate normality of residuals being achieved.

Linearity of Residuals. Linearity of residuals refers to the assumption that the relationship between the variables is linear. The scatterplot is used to test the linearity of residuals, if the scatterplot shows a linear pattern then the linearity of residuals is achieved (Casson & Farmer, 2014).

Chapter 4

Result

Missing Data

Researchers should scrutinise and discard findings that have missing values when a main indicator or primary result in a cross-sectional study has missing data (Sainani, 2015). Any incomplete data entry or missing data were removed after initial data cleaning. The 22 participants did not completely fill up the survey questions that were dropped by researchers and 101 respondents were retained in the present study.

Normality Assumption

Normality assumptions were assessed by five indicators, which are histogram, skewness and kurtosis values, Quantile-Quantile plot (Q-Q plot), and Kolmogorov Smirnov (K-S) test.

Univariate Outliers

Boxplot was used to determine univariate outliers in this study. Data that were found to be extreme in their value were removed as they have high risk of affecting the outcome of the statistical analysis (Mowbray et al., 2019). A total of 5 cases were found to have irregular data and removed. The boxplot and eye test were used to determine these 5 cases.

Histogram

Normality can be examined by histogram. In this present study, the histograms for each variable showed a bell-shaped curve, which indicated all variables were normally distributed, and the data collected were close to its mean value (refer to Appendix G).

Skewness and Kurtosis

Skewness and kurtosis value were used to assess the normality of each variable. According to Table 4.1, the value of all variables fall within the acceptable range of -2 to +2 as suggested by George and Mallery(2010). Therefore, indicating that the normality assumption for skewness and kurtosis were met.

Table 4.1

Skewness and kurtosis

Variables	Skewness	Kurtosis
Self-esteem	-.264	-.150
Internal Locus of Control	-.032	1.056
External Locus of Control	.160	.254
Hopelessness	.081	-.043
Depression	.295	-.493

Quantile-Quantile plot (Q-Q plot)

Another test that was employed in the current study for normality checking was Q-Q plot. The result indicated that assumption of normality was met as the Q-Q plot of each variable showed that all points are not deviated from the diagonal line (refer to Appendix G).

Kolmogorov Smirnov (K-S) test

Normality can be checked through the K-S test in this present study. According to Ghasemi and Zahediasl (2012), the normal distribution is acceptable when the result shows a non-significant p-value ($p > .05$). According to table 4.2, the result indicates that only hopelessness shows violation, as the p-value is smaller than .05. In fact, self-esteem, locus of

control, and depression are significantly normal, since the *p*-value is greater than .05. Hence, the normality assumption of the K-S test is met.

Table 4.2

Kolmogorov Smirnov (K-S) test

Variables	Significant value
Self-esteem	.072
Internal Locus of Control	.034
External Locus of Control	.200*
Hopelessness	.003
Depression	.081

Summary for Assumptions of Normality

According to the results of the five normality indicators, the histogram, skewness and kurtosis test, Q-Q Plot and Kolmogorov- Smirnov Test (K-S Test) do not violate the assumption of normality. As a result, it is concluded that all five variables met the normal distributions.

Outliers

Multivariate Outliers

The present study implemented Mahalanobis Distance, Cook's Distance and Centered-Leverage Value to examine the multivariate outliers. Based on Table 4.3, this study evaluated four potential outliers which are Case 14 ,Case 38, Case 67, and Case 70. According to Barnett and Lewis (1978), the cut-off points of Mahalanobis Distance is lower than 15. The benchmarks of Cook's Distance is not more than 1 (Cook & Weisberg, 1982) and the range of Centered-Leverage Value is within .0656 (Hoaglin &Welsch, 1978). Thus,

all the potential outliers were not excluded due to the failure of invading the benchmark of the Mahalanobis Distance, Cook's Distance and Centered-Leverage Value.

Table 4.3

Multivariate Outliers Test

Case ID	Mahalanobis Distance	Cook's Distance	Centered-Leverage Value
14	11.045	.203	.117
38	1.104	.034	.012
67	3.292	.048	.035
70	4.931	.117	.052

Descriptive Statistics

Among the 95 respondents, the majority of them were Chinese (95.80%) with an age range from 18 to 28 years old ($M = 21.57$, $SD = 1.46$). 51.60% of the respondents are males, 46.30% are females. Majority of the respondents are from University Tunku Abdul Rahman (92.60%). Majority of the participants are pursuing bachelor's degrees (98.90%). Most of the respondents are students in year 3(43.20%), which is shown in Table 4.4.

Table 4.4

Frequency Distribution of Participants in Demographic Variables and Main Variables

	n	*%*	*M*	*SD*
Age			21.57	1.46
Gender				
Male	49	51.6		
Female	44	46.3		
Prefer not to say	2	2.1		
Race				
Chinese	91	95.8		
Malay	1	1.1		
Indian	1	1.1		
Prefer not to say	2	2.1		
Institution				
INTI	2	2.1		
Monash University	1	1.1		
Sunway University	2	2.1		
Universiti Malaya	1	1.1		
Universiti Tunku Abdul Rahman	88	92.6		
Universiti Kebangsaan Malaysia	1	1.1		
Education Level				
Bachelor's Degree	94	98.9		
Master's Degree	1	1.1		
Year of Study				
Year 1	30	31.6		
Year 2	23	24.2		
Year 3	41	43.2		
Year 4	1	1.1		

Descriptive statistics of the four variables were presented in Table 4.5. Mean and standard deviation of the three predictors and the outcome variable were shown, which are self-esteem ($M = 27.44$; $SD = 4.19$), locus of control ($M = 94.26$; $SD = 10.92$), hopelessness ($M = 36.05$; $SD = 4.85$), and depression ($M = 17.18$; $SD = 4.88$).

Table 4.5

Descriptive Statistics of the Variables

	N	Minimum	Maximum	Mean	Std.Deviation
Rosenberg Self Esteem Scale	95	17	37	27.44	4.19
Adaptive Levenson Multidimensional Locus of Control Scale	95	69	129	94.26	10.92
Herth Hope Index	95	25	48	36.05	4.85
Patient Health Questionnaire-9	95	9	30	17.18	4.88

Multiple Linear Regression Assumptions

Types of variables

The variables under investigation in this research are continuous variables, which are consistent with the assumptions of multiple linear regression. Therefore, the MLR assumption is met when the dependent variables are continuous variables, and the independent variables are quantitative (Berry, 1993).

Independent

The participants' responses offered in this study were assumed to be independent of one another. Thus, the data collected by this research met the assumptions as the independent setting present in this study.

Multicollinearity

The tolerance and Variance Inflation Factor (VIF) were implemented to examine the relationship of all the independence variables to investigate the multicollinearity issue in the present study. According to Senaviratna and Cooray (2019), the value of VIF exceeding 10 represents multicollinearity. When the value of tolerance is not below 0.1, multicollinearity is not taken into account (Kim, 2019). Table 4.6 mentioned that the results of the value of tolerance and VIF of every independent variable were of no multicollinearity.

Table 4.6
Collinearity Statistics

| Model	Tolerance	VIF
RSES	.491	2.038
ILCS	.573	1.746
ELCS	.700	1.428
HHI	.888	2.178

Independence of residuals

The Durbin Watson test is implemented to detect whether self-association of errors exists or not (Ashoor et al., 2021) while the rating ranged from 1 to 3 (Champion et al., 1998). The assumption was met because there was no violation and the value was near to 2 which is 1.952, demonstrating the validity of the assumption.

Test of Normality of Error, Linearity of Error and Homoscedasticity

Figure 3 showed that most of the residuals were placed at the centre of the zero line on the scatterplot. Then, the left of the residuals are randomly and evenly distributed. Therefore, all the assumptions of the multiple linear regression were not violated.

Figure 3

Linearity of Residual, Normality of Residual and Homoscedasticity
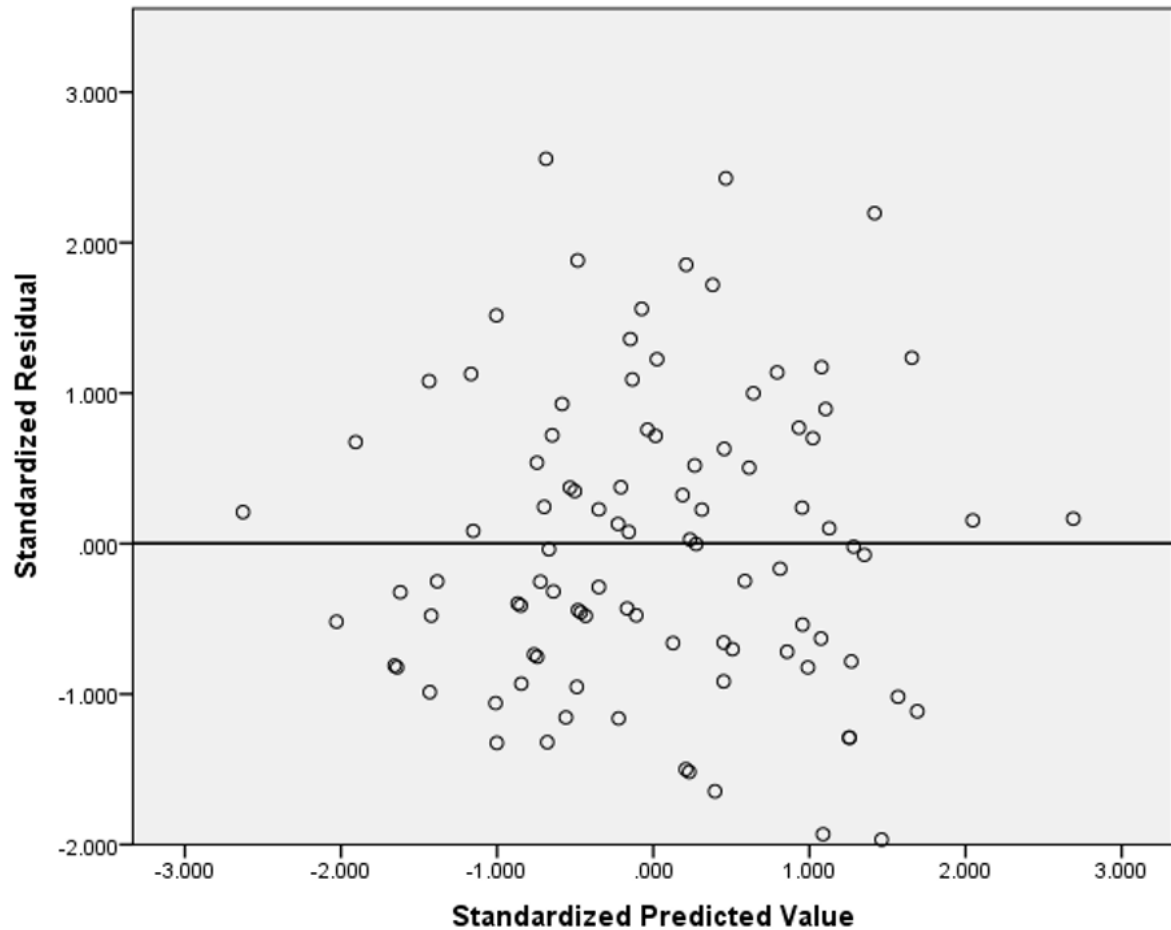
Multiple Linear Regression Analysis

Multiple regression analysis implemented in this research to examine the significance of predictors of this study which are self-esteem, hopelessness and locus of control towards depression. Based on Table 4.7, the model was statistically significant as $F(4, 94) = 14.356$, $p < .000$, and there was 39.60% of variances. Besides, Table 4.8 showed that self-esteem ($\beta =$ -.363, $p = .002$) is significantly and negatively predicted for depression. External locus of control ($\beta = .397$, $p < .000$) is significantly and positively predicted for depression. Internal

locus of control (β = -.109, p = .306) and hopelessness (w= .017, p = .888) are not a

significant predictor of depression among Malaysian university students.

Table 4.7

Result of Regression Model

	df	F	p	Adj. square R
Regression	4	16.437	.000	.396
Residual	90			
Total	94			

Predictors: (Constant), Self-esteem, locus of control, hopelessness

Dependent Variable: Depression

Table 4.8

Result of Regression Coefficient

	Std. B	t	p
Self-esteem	-.363	-3.169	.002
Internal Locus of Control	-.109	-1.030	.306
External Locus of Control	.397	4.147	.000
Hopelessness	.017	.141	.888

Dependent Variable: Depression

Summary of Findings

Based on Table 4.9, H1 and H2 were supported while H3 and H4 were not supported in this study.

Table 4.9

Summary of findings

Hypothesis	Std. B	p	Decision
H1: Self-esteem negatively predicts depression among university students in Malaysia.	-.363	.002	Supported
H2: External locus of control positively predicts depression among university students in Malaysia	.397	.000	Supported
H3. Internal locus of control negatively predicts depression among university students in Malaysia.	-.109	.306	Not supported
H4. Hopelessness positively predicts depression among university students in Malaysia.	.017	.888	Not supported

Chapter 5

Discussion

H1: Self-esteem negatively predicts depression among university students in Malaysia.

The results of this present research supported this hypothesis. Same as past studies (Azmi et al., 2022; Gao et al., 2022; Jin & Zhu, 2022; Kircaburun, 2016; Li et al., 2018), the outcomes of the current study investigated that self-esteem negatively predicts depression. It showed that people who had lower self-esteem were more likely to suffer from depression.

There were many past studies indicating that a greater chance to develop depression is linked to lower levels of self-esteem (Fiorilli et al., 2019; Kapikiran & Acun-Kapikiran, 2016; Khalek, 2016; Masselink et al., 2018). For instance, Yusoff et al. (2016) discovered that depression and self-esteem had a negative correlation in a population of Malaysian undergraduates. Similar findings were made by Khoo et al. (2021) in their research on Malaysian undergraduates, who discovered that depression was significantly predicted by self-esteem, with higher incidences of depression being linked to reduction in self-esteem.

According to Valenti and Faraci (2021), self-esteem was especially important for university students because making the adjustment to campus life could be difficult and stressful, which might have an adverse effect on their mental and emotional well-being. Low self-worth and self-esteem, as well as having a psychiatric illness prior to enrolling in university (Mofatteh, 2021). Therefore, university students will have higher potential and suffer from lower self-esteem due to the university adjustment stated above which causes them to suffer from depression.

Based on the past study, it was hypothesised that low self-esteem indicates depression among undergraduates due to life transition. According to Negovan and Bagana (2011), the transfer to a different level of students' higher learning was thought to be the most important life episode that could affect their self-esteem. During the transition of the first-

year undergraduates, their perception of social support may have an impact on their self-esteem, which in turn may have an impact on their depressed symptoms (Lee et al., 2014). In short, university students might suffer from depression because of low self-esteem during life transitioning. Thus, the hypothesis was supported as self-esteem negatively predicted depression among university students.

H2: External locus of control positively predicts depression among university students in Malaysia.

The findings of the current study had supported the second hypothesis, external locus of control was found to be significantly and positively associated with depression. The results show consistency with past findings (Khumalo & Plattner, 2019; van Dijk et al., 2013; Cheng et al., 2013). It indicated that external locus of control is a positive and significant predictor of depression. When individuals have greater external locus of control, they have a higher tendency to be diagnosed with depression. This is similar to past study, which suggested that individuals have the tendency to feel depressed when they believe they have no control over their own fate or future and that their efforts are futile (Sakthivel, 2022).

Apart from that, individual with higher external locus of control tend to display depressive symptoms as they have the tendency to depend on their parents to meet their demands (Okwaraji et al., 2018). They went through stress and depression when their parents were unable to satisfy their needs. This shows consistent with past findings as suggested above. When people feel powerless over their own lives, they are more likely to put their faith in luck and rely on others, which is adopting external locus of control to get things done (H'ng et al., 2021). As a result, they have a higher tendency to suffer from depression.

In addition, the findings of the present are in line with the study of Yu & Fan (2019). The study revealed that individuals will experience depression easily if they have the

tendency to rely on powerful others and chances. This indicates that external locus of control is significantly and positively associated with depression. In short, people with an external locus of control frequently experience a sense of hopelessness, thinking they have little control over their lives and that their efforts will not have much of an impact. Hence, they are more likely to be diagnosed with depression.

H3: Internal locus of control negatively predicts depression among university students in Malaysia.

The third hypothesis was not supported in this research that internal locus of control negatively predicts depression among university students in Malaysia. Past research with similar findings indicates that individuals with internal locus of control are less likely to experience depression (Gray-Stanley et al., 2010; Pahlevan Sharif, 2017; Crandall et al., 2019). It indicated that internal locus of control is a negative predictor of depression.

According to a study by Bjørkløf et al. (2015), those who have an internal locus of control have a more uplifting message on life and tend to dwell less on the things they are unable to control and more on the things they can. As a result, this optimistic outlook can aid in preventing depression as well as other mental health problems. This shows consistent with past findings as suggested above. Not only that, but a person also who has an internal locus of control is not easily affected by others as they believe that they can affect how things turn out (Rizza et al., 2015). People are less likely to have depressive symptoms when they have greater internal locus of control.

Not only that, it is also supported by past studies that had similar results showing that high level of internal locus of control is associated with decreased depressive symptoms (Asberg & Renk, 2012; Sigurvinsdottir et al., 2020; Theofilou, 2012;). This is due to the fact

that people who have an internal locus of control frequently feel that they have more influence over their lives, which can promote emotions of empowerment and self-efficacy. In short, high internal locus of control is found to be negatively correlated with depression (Madu, 2018).

H4: Hopelessness positively predicts depression among university students in Malaysia.

The present study found that this hypothesis was not supported given that hopelessness was not a significant predictor. In contrast to past findings that hopelessness was a significant positive predictor for depression among university students in Malaysia (Bener et al., 2017; Ok & Kutlu, 2019; Padmanabhanunni & Pretorius, 2021). The previously mentioned three past studies have used the sample size of 678, 170 and 337 respectively. One of the reasons why our results showed non-significant data can be attributed to the small sample size of the study, which is only 95 participants. There is a high likelihood that small sample size could lead to insignificant data (Visentin et al., 2020).

The sample size requires a good representation of the entire population to draw concrete conclusions and have a significant result (Andrade, 2020). A sample size that is too big is unnecessary and time consuming, meanwhile a sample size too small will likely cause bias results. A larger sample size could represent the population value better and more accurately, in comparison to a smaller one which might be biased towards either side of the data (Andrade, 2020). A small number of participants could compromise the study's accuracy (Faber & Fonseca, 2014).

There were also few past studies stating that there was an inverse relationship between hopelessness and depression which means that depression mediated hopelessness (Chang et al., 2017; Zhang et al., 2022). For instance, according to the past study, Alloy et al. (1991) suggested a helplessness-hopelessness paradigm of the concurrent conditions of both depression and anxiety, indicating that cognitive variables like hopelessness and an

unfavourable attitude toward attribution could assist with depression as well as anxiety. Besides, according to the current study, Zhang et al. (2022), a greater sense of hopelessness could lead to more severe signs of depression. Thus, the reason why the fourth hypothesis is not supported could be attributed to a small sample size in comparison to other past studies.

Implications

Theoretical Implication

In this research, self-esteem, locus of control and hopelessness were used as predictors to depression. Meanwhile, depending on the study's findings, internal locus of control (Gray-Stanley et al., 2010; Pahlevan Sharif, 2017; Crandall et al., 2019) and hopelessness (Dat et al., 2021; Lamis et al., 2016; Nalipay & Ku, 2018; Pretorius, 2021), were found to be not significant, which was different from earlier research. As a result, the discrepancy between the present study and previous studies may draw researchers' attention to this area with the goal of determining the causes of the discrepancies or outcomes, which might be a fresh contribution to the corpus of literature already written.

Beck's Cognitive Theory of Depression by Beck et al. (1979) was implemented in this present study, to investigate the predictive roles of self-esteem, locus of control, and hopelessness on depression. Meanwhile, the non-significant findings of internal locus of control and hopelessness suggested that Beck's Cognitive Theory of Depression is not applicable to internal locus of control and hopelessness among university students in Malaysia. The reason could be the two elements in Beck's Cognitive Triad, which is a pessimistic outlook on both the world and the future. This could indicate that a negative view about the world and negative view of the future is an aftereffect of depression instead of a predicting factor for depression. Or internal locus of control and hopelessness isn't a good

representation of a negative view about the world and a negative view of the future. A study with these two variables as the predictors with a bigger sample size should be replicated for better and more concrete finding.

Other than that, the negative view about oneself corner of the Beck's Cognitive Triad is proven to be a predictor of depression with self-esteem representing as a measurement scale. Rosenberg's self-esteem scale is used to measure self-esteem and it's found to significantly negatively predict depression. Low level of self-esteem is found to be a foretell for depression. This is similar to the findings of past studies (Sowislo & Orth, 2013;Orth & Robins, 2013; Kircaburun, 2016). External locus of control has also served to positively predict depression, which have fulfilled the corner of the triad of having negative views of the world. Individuals with high levels of external locus of control will think that their fate is in the hands of powerful others or chance, which can lead them to associate their fate in the hand of others and build a negative perception of the world surrounding them.

Practical Implication

The current study improves public knowledge by helping people comprehend more clearly how the major variables interact, especially among Malaysia university students. The current study aids the people in becoming more conscious of and knowledgeable about their emotional state. It helps people have some understanding on how self-esteem, internal and locus of control and hopelessness influenced people's depression. For example, it can serve as a guide for them as they brainstorm helpful and beneficial ideas and execute successful programmes to motivate more people to take part in depression interventions or programmes such as identifying potential causes to improve mental health tactics.

Moreover, since the outcomes of this study showed that self-esteem negatively predicted depression and external locus of control positively predicted depression, the

government developed plans intended to promote self-esteem and to reduce belief in external locus of control (power of others). There were some interventions plans to promote self-esteem to reduce the tendency of depression such as Educational-participatory Program (Moshki et al., 2012), Cognitive-behavioural Therapy (Taylor & Montgomery, 2007), Competitive Memory Training (Steel et al., 2020) and Compassion Focused Therapy (Andersen & Rasmussen, 2017). Ways to reduce self-external locus of control like train self to be accountable, change mindset and prevent thinking of black-and-white will help in reducing the tendency of depression.

Furthermore, mindfulness was an effective technique for regulating one's emotions to control depression. According to Hofmann and Gomez, 2017, mindfulness was an effective way to reduce an individual's depression. Being mindful might assist individuals in avoiding worry excessively about the past or the future, which can lower anxiety and ruminating which could cause people's bad mood. Another past study from Krusche et al. (2013) also found that when initial severity was taken into consideration, increased mindfulness practise substantially lowered depression outcomes. This is because mindfulness enables the person to become detached from them in order to gain understanding, consciousness, and compassion as well as to encourage more adaptable and flexible coping mechanisms (Edenfield & Saeed, 2012). Hence, individuals who have difficulties with coping mechanisms might use mindfulness to handle their coping strategies in order to reduce depression.

This allows the people to fully understand the significance of regulating their depressive symptoms, which ultimately strengthens their mental health to show increase in self-esteem and decrease in external locus of control. In short, people who strive to have higher self-esteem and lower external locus of control would have a lower tendency to suffer from depression.

Limitations

In the current study, there were few limitations found. Firstly, this study had implemented cross-sectional research design to examine the predictive roles of self-esteem, internal locus of control, external locus of control and hopelessness towards depression. Given that both the exposure and the result were only investigated once in cross-sectional study, however, it was challenging to draw conclusions about the causes of the variables (Solem, 2015). In this research, each variable has been evaluated only once. The psychological factors such as self-esteem, internal and external locus of control and hopelessness might alter over time as a result of environmental influences and individual experiences. Therefore, in this research, the cross-sectional research method was only used to determine the incidence of a situation at a particular time.

Moreover, the limitation of this present study is the lengthy survey questionnaire which causes the respondents to take longer time to answer the survey questionnaire. This is because there are few respondents who gave feedback on the issue of lengthy survey questionnaires. Thus, higher possibilities lead to the participants getting bored and stop taking the online survey in the middle, which would lower the response rate. Respondents who select an answer without comprehending the question's main ideas may have an impact on the reliability and validity of the information provided. Due to the lack of complete responses, there were 22 responses calculated as missing data were discovered in this study. There were also issues of respondents being rejected in answering the survey questionnaire due to the lengthy survey questionnaire which led to time consuming searching respondents in the present study.

Self-reporting questionnaires is also one of the limitations of the present study. There are two types of limitations of self-reporting which are response bias and social desirability bias. According to Caputo (2017), due to the tendency of individuals to raise the level of their

contentment and fulfilment, social desirability appears to improve well-being measures by producing response artefacts and posing an important risk to the accuracy of self-reported data. This bias may cause good behaviours or attitudes to be over-reported while negative behaviours or attitudes are under-reported. Next, response bias is meant by systematic propensity for responding to a variety of survey questions on a certain basis other than the substance of each question (Wetzel et al., 2016). This might cause participants to give incorrect or disparate answers. Thus, it might lower the data provided reliability and validity and definitely affect the outcomes of the research.

Besides, the location of this study was only in Malaysia as the target participants were only the university students in Malaysia. The limited universality causes the research findings from a single nation might not be universal to outcomes from studies performed in other nations or cultures, due to the various socioeconomic, political, and cultural environments. The data are homogenous as more or less the same characteristics of participants as they were situated at the same settings. It can be challenging to tell whether the results are particular to that nation or shared by results from other nations. Then, it might cause restricted scope because the study depends solely on one particular context, it could fail to adequately represent the complexities of a phenomenon.

Lastly, small sample size was also one of the limitations in this study. Limited sample size means that it's able to restrict how broadly the results could be applied. Particularly, it became challenging to make meaningful conclusions regarding the population being investigated once the sample size is too small. For example, in this study, the fourth hypothesis was supposed to be supported as past studies concluded that hopelessness predicts depression among university students (Lew et al., 2019; Padmanabhanunni & Pretorious, 2021; Zahn et al., 2015). Small sample size in this study compared to other past studies might be one of the reasons that led to not supporting the fourth hypothesis.

Recommendation

This current research has some recommendations to address the limitations which have been identified. First and foremost, instead of cross-sectional research design, longitudinal research design is recommended to be adopted by the researcher. Longitudinal study can allow the researchers to understand the degree and direction of a behaviour to change over time (Schaie, 2012). Not only that, but a longitudinal study also allows researchers to define the sequence of occurrences, removes respondents' recall bias, and has flexibility with the cohort effect (Caruana et al., 2015). Therefore, researchers can determine the changes over time of the predictors (self-esteem, locus of control, hopelessness) and the intention of the behaviour on depression among Malaysian university students. This is because the changes of the three predictors may have an effect across time on the outcome variable, which is the level of depression. According to Mechakra-Tahiri et al. (2013), the symptoms and intensity of depression tends to change overtime. As a result, the accuracy towards the three predictors will increase if adopting longitudinal research design in the future.

The second recommendation to the limitation is the researchers are suggested to imply a shorter and simplified form of questionnaire for future study. This is to help the participants to retain their interest while answering the questionnaire, and they will not feel bored easily. Hence, participants are more inclined to finish the online questionnaire. Participants are more likely to answer a simple questionnaire as they are able to understand the question. In this case, error will decrease as misunderstandings of the meaning of questions do not occur. Thus, the reliability and validity can be increased. Not only that, but a shorter survey can also be time-saving as the participants take a shorter time to respond to the online survey. Response rate can be increased when creating a short questionnaire, and it is more convenient for the participants to complete the questionnaire (Sahlqvist et al., 2011).

Moreover, by using indirect questioning in the questionnaire, social desirability bias can be reduced. Indirect questioning, as defined by Ried et al. (2022), is the practice of requesting survey respondents to respond based on the perspectives of others rather than their own. As a result, the participants will be encouraged to respond honestly because they believe that their answers won't be scrutinised. It is advised to steer clear of using "you" in the query for future studies. To get around this restriction, the researchers could also use a measure to find social desirability bias. It is advised to apply the Social Desirability Scale-17 (SDS-17), which was found to generate results similar to those of the Marlowe-Crowne Social Desirability Scale (M-C SDS), the most popular scale for detecting social desirability bias. However, the SDS-17 scale has only 16 items as opposed to the 33 items of the M-C SDS. (Larson, 2018).

In terms of the location of target participants, the researchers are suggested to collect data from other states in Malaysia, so that the findings can be generalised to other contexts as well. By generalising the findings, researchers can determine whether the result is consistent across different populations (Lesko et al., 2017). In the future research, the researchers are recommended to not just limit the target participants to university students in Malaysia, but also other states in Malaysia.

The recommendation of small sample size in this study, the researchers are suggested to collect more respondents to higher the possibilities of reliability on the outcomes of the study. A bigger sample size, as opposed to a smaller one that might be biassed towards the other part of a data, could much more properly and adequately reflect the population value. Hence, researchers are recommended to collect more participants to promote the reliability and validity of the data.

Conclusion

To summarise the study, the objectives of testing the predictive effects of self-esteem, locus of control and hopelessness on depression among Malaysian university students has been achieved. The results of the research supported two of our hypotheses which are i) self-esteem negatively predicts depression among university students in Malaysia and ii) external locus of control positively predicts depression among university students in Malaysia. Internal locus of control and hopelessness are found to be non-significant predictors of depression among Malaysian university students.

This study has contributed a better understanding of the roles of self-esteem and external locus of control as predictors of depression. This can help in designing better intervention plans to help reduce the risk of depression among university students in Malaysia. This research also serves to shed some light on depression is common among Malaysian university students and the importance of finding the predictors of depression to better combat it. Mental health issues in Malaysia need to be given more attention and effort (Raaj et al., 2021).

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Appendixes

Appendix A

Questionnaire

UTAR
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Personal Data Protection Statement

In accordance with Personal Data Protection Act 2010 ("PDPA") which came into force on 15 November 2013, Universiti Tunku Abdul Rahman ("UTAR") is hereby bound to make notice and require consent in relation to collection, recording, storage, usage and retention of personal information.

Notice:

1. The purposes for which your personal data may be used are inclusive but not limited to:
   • For assessment of any application to UTAR • For processing any benefits and services
   • For communication purposes
   • For advertorial and news
   • For general administration and record purposes
   • For enhancing the value of education
   • For educational and related purposes consequential to UTAR
   • For the purpose of our corporate governance
   • For consideration as a guarantor for UTAR staff/ student applying for his/her scholarship/ study loan.

2. Your personal data may be transferred and/or disclosed to third party and/or UTAR collaborative partners including but not limited to the respective and appointed outsourcing agents for purpose of fulfilling our obligations to you in respect of the purposes and all such other purposes that are related to the purposes and also in providing integrated services, maintaining and storing records. Your data may be shared when required by laws and when disclosure is necessary to comply with applicable laws.

3. Any personal information retained by UTAR shall be destroyed and/or deleted in accordance with our retention policy applicable for us in the event such information is no longer required.

4. UTAR is committed in ensuring the confidentiality, protection, security and accuracy of your personal information made available to us and it has been our ongoing strict policy to ensure that your personal information is accurate, complete, not misleading and updated. UTAR would also ensure that your personal data shall not be used for political and commercial purposes.

Consent Form for Research Participation and Personal Data Protection
Title of Project: Self-Esteem, Locus of Control and Hopelessness as Predictors of Depression among University Students in Malaysia.

NOTE: This consent form will remain with the UTAR researchers for their records. I understand I have been asked to take part in the research project specified above by UTAR students for the purpose of their UAPZ 3023 Final Year Project II. I have had the project explained to me, and I have read the Explanatory Statement, which I keep for my records.

	I understand that:	
	Yes	No
I will be asked to complete a questionnaire about "Self-Esteem, Locus of Control and Hopelessness as Predictors of Depression among University Students in Malaysia."	O	O
My participation is voluntary, that I can choose not to participate in part or all of the project, and that I can withdraw at any stage of the project without being penalised or disadvantaged in any way.	O	O
I may ask at any time for my data to be withdrawn from the project	O	O
No information I have provided that could lead to the identification of any other individual will be disclosed in any reports on the project, or to any other party	O	O
	Yes	No
I will remain anonymous at all times in any reports or publications from the project.	O	O
It is my sole responsibility to look after my own safety for the above project. In the event of any misfortune or accidental injury involving me, whether or not due solely to personal negligence or otherwise, I hereby declare that UTAR shall not be held responsible.	O	O
I am aged 18 years and above	O	O

By submitting this form, I hereby authorise and consent to UTAR processing (including disclosing) my personal data and any updates of my information, for the purposes and/or for any other purposes related to the purpose.
I acknowledge that if I do not consent or subsequently withdraw my consent to the processing and disclosure of my personal data, UTAR will not be able to fulfil their obligations or to contact me or to assist me in respect of the purposes and/or for any other purposes related to the purpose.

Acknowledgment of Personal Data Protection Notice

O I have been notified by you and that I hereby understood, consented and agreed per UTAR above notice.

O I disagree, my personal data will not be processed.

Age:

[   ]

Gender:

○ Male

○ Female

○ Prefer not to say

Race:

○ Chinese

○ Malay

○ Indian

○ Others:

[   ]

○ Prefer not to say

Name of University: (Eg. Universiti Tunku Abdul Rahman)

[   ]

Education Level

○ Bachelor's Degree

○ Master's Degree

○ PhD

Year of Study: (Eg. Year 1, Year 2, etc...)

[   ]

Instructions:

Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement.

Strongly Disagree	Disagree	Agree	Strongly Agree
1	2	3	4

Rosenberg Self-esteem Scale (RSES)

	1 - Strongly Disagree	2 - Disagree	3 - Agree	4 - Strongly Agree
1. On the whole, I am satisfied with myself.	○	○	○	○
2. At times I think I am no good at all.	○	○	○	○
3. I feel that I have a number of good qualities.	○	○	○	○
4. I am able to do things as well as most other people.	○	○	○	○
5. I feel I do not have much to be proud of.	○	○	○	○

	1 - Strongly Disagree	2 - Disagree	3 - Agree	4 - Strongly Agree
6. I certainly feel useless at times.	○	○	○	○
7. I feel that I'm a person of worth, at least on an equal plane with others.	○	○	○	○
8. I wish I could have more respect for myself.	○	○	○	○
9. All in all, I am inclined to feel that I am a failure.	○	○	○	○
10. I take a positive attitude toward myself.	○	○	○	○

Instructions:

For each of the following statements, indicate the extent to which you agree or disagree by selecting the appropriate number.

Strongly Disagree	Disagree Somewhat	Slightly Disagree	Slightly Agree	Agree Somewhat	Strongly Agree
1	2	3	4	5	6

Adapted Levenson Multidimensional Locus of Control Scales

	1 - Strongly Disagree	2 - Disagree Somewhat	3 - Slightly Disagree	4 - Slightly Agree	5 - Agree Somewhat	6 - Strongly Agree
1. Whether or not I get to be a leader depends mostly on my ability.	O	O	O	O	O	O
2. To a great extent my life is controlled by accidental happenings.	O	O	O	O	O	O
3. I feel like what happens in my life is mostly determined by powerful people.	O	O	O	O	O	O
4. Whether or not I get into a car accident depends mostly on how good a driver I am.	O	O	O	O	O	O
5. When I make plans, I am almost certain to make them work.	O	O	O	O	O	O
6. Often there is no chance of protecting my personal interests from bad luck.	O	O	O	O	O	O

	1 - Strongly Disagree	2 - Disagree Somewhat	3 - Slightly Disagree	4 - Slightly Agree	5 - Agree Somewhat	6 - Strongly Agree
7. When I get what I want, it's usually because I'm lucky.	O	O	O	O	O	O
8. Although I might have good ability, I will not be given leadership responsibility without appealing to those in positions of power.	O	O	O	O	O	O
9. How many friends I have depends on how nice a person I am.	O	O	O	O	O	O
10. I have often found that what is going to happen will happen.	O	O	O	O	O	O
11. My life is chiefly controlled by powerful others.	O	O	O	O	O	O
12. Whether or not I get into a car accident is mostly a matter of luck.	O	O	O	O	O	O

	1 - Strongly Disagree	2 - Disagree Somewhat	3 - Slightly Disagree	4 - Slightly Agree	5 - Agree Somewhat	6 - Strongly Agree
13. People like myself have very little chance of protecting our personal interests when they conflict with those of strong pressure groups.	O	O	O	O	O	O
14. It's not always wise for me to plan too far ahead because many things turn out to be a matter of good or bad fortune.	O	O	O	O	O	O
15. Getting what I want requires pleasing those people above me.	O	O	O	O	O	O
16. Whether or not I get to be a leader depends on whether I'm lucky enough to be in the right place at the right time.	O	O	O	O	O	O

17. If important people were to decide they didn't like me, I probably wouldn't make many friends.

○ ○ ○ ○ ○ ○

18. I can pretty much determine what will happen in my life.

○ ○ ○ ○ ○ ○

	1 - Strongly Disagree	2 - Disagree Somewhat	3 - Slightly Disagree	4 - Slightly Agree	5 - Agree Somewhat	6 - Strongly Agree
19. I am usually able to protect my personal interests.	○	○	○	○	○	○
20. Whether or not I get into a car accident depends mostly on the other driver.	○	○	○	○	○	○
21. When I get what I want, it's usually because I worked hard for it.	○	○	○	○	○	○
22. In order to have my plans work, I make sure that they fit in with the desires of people who have power over me.	○	○	○	○	○	○
23. My life is determined by my own actions.	○	○	○	○	○	○
24. It's chiefly a matter of fate whether or not I have a few friends or many friends.	○	○	○	○	○	○

Instructions:

Listed below are a number of statements. Read each statement and select the answer that describes how much you agree with that statement right now.

Strongly Disagree	Disagree	Agree	Strongly Agree
1	2	3	4

Herth Hope Index

	1 - Strongly Disagree	2 - Disagree	3 - Agree	4 - Strongly Agree
1. Positive outlook on life.	O	O	O	O
2. Presence of goals.	O	O	O	O
3. Feel all alone.	O	O	O	O
4. See possibilities in the midst of difficulties.	O	O	O	O

	1 - Strongly Disagree	2 - Disagree	3 - Agree	4 - Strongly Agree
5. Faith that comforts.	O	O	O	O
6. Scared about the future.	O	O	O	O
7. Recall happy/joyful times.	O	O	O	O
8. Deep inner strength.	O	O	O	O

	1 - Strongly Disagree	2 - Disagree	3 - Agree	4 - Strongly Agree
9. Give and receive caring/love.	O	O	O	O
10. A sense of direction.	O	O	O	O
11. Each day has potential.	O	O	O	O
12. Life has value and worth.	O	O	O	O

Instruction:

Over the last 2 weeks, how often have you been bothered by any of the following problems?

Not at All	Several Days	More than Half the Days	Nearly Every Day
0	1	2	3

Patient Health Questionnaire (PHQ-9)

	0 - Not at All	1 - Several Days	2 - More than Half the Days	3 - Nearly Every Day
1. Little interest or pleasure in doing things.	○	○	○	○
2. Feeling down, depressed, or hopeless.	○	○	○	○
3. Trouble falling or staying asleep, or sleeping too much.	○	○	○	○
4. Feeling tired or having little energy.	○	○	○	○
5. Poor appetite or overeating.	○	○	○	○

	0 - Not at All	1 - Several Days	2 - More than Half the Days	3 - Nearly Every Day
6. Feeling bad about yourself or that you are a failure or have let yourself or your family down.	○	○	○	○
7. Trouble concentrating on things, such as reading the newspaper or watching television.	○	○	○	○
8. Moving or speaking so slowly that other people could have noticed. Or the opposite being so fidgety or restless that you have been moving around a lot more than usual.	○	○	○	○
9. Thoughts that you would be better off dead, or of hurting yourself.	○	○	○	○

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DU012(A)

We thank you for your time spent taking this survey.
Your response has been recorded.

If you do feel that you are in need of professional help and medical assistance, do kindly reach out to the organisation contact offered below:

Talian Kasih 15999
24-hour Nationwide Helpline & Counselling
Phone: 15999 or WhatsApp: +60192615999
Website: www.kpwkm.gov.my

The Befrienders*
Emotional Support & Suicide Prevention Helpline
Ipoh / Phone: +605 5477 933 or +605 5477 955 (1pm-10pm)
Email: sam.befriendersipoh@gmail.com

The Malaysian Mental Health Association (MMHA)
Psychological Therapy & Support Services
Phone: +603 2780 6803 (Mon.-Fri. 9am-5pm, except public holidays)
Website: www.mmha.org.my

Appendix B

Calculation of Effect Size

Self-Esteem

f^2 Self-esteem = $((-.426)^2)/(1 - (-.426)^2) = 0.222$

Nguyen, D. T., Wright, E. P., Dedding, C., Pham, T. T., & Bunders, J. (2019). Low self-
esteem and its association with anxiety, depression, and suicidal ideation in vietnamese
secondary school students: a cross-sectional study. Frontiers in psychiatry, 698.
https://doi.org/10.3389/fpsyt.2019.00698

Hopelessness

f^2 Hopelessness = $((.61)^2)/(1 - (.61)^2) = 0.593$

Ahookhosh, P., Bahmani, B., Asgari, A., & Moghaddam, H. H. (2017). Family
relationships and suicide ideation: the mediating roles of anxiety, hopelessness, and
depression in adolescents. International journal of high risk behaviors and addiction,
6(1). http://dx.doi.org/10.5812/ijhrba.31573

Internal Locus of Control

f^2 Internal Locus of Control = $((-.29)^2)/(1 - (-.29)^2) = 0.092$

Khumalo, T., & Plattner, I. E. (2019). The relationship between locus of control and
depression: A cross-sectional survey with university students in Botswana. South
African Journal of Psychiatry, 25. https://doi.org/10.4102/sajpsychiatry.v25i0.1221

External Locus of Control

f^2 External Locus of Control $= ((.45)^2)/(1 - (.45)^2) = 0.254$

> Gore, J. S., Griffin, D. P., & McNierney, D. (2016). Does internal or external locus of
>
> control have a stronger link to mental and physical health?. Psychological Studies,
>
> 61(3), 181-196.

Total Effect Size

$f^2 = 0.222+0.593+0.092+0.099 / 4 = 0.252$

Appendix C

G*Power

Appendix D

Ethical Approval for Research Project

UNIVERSITI TUNKU ABDUL RAHMAN *DU012(A)*
Wholly owned by UTAR Education Foundation   *Co. No. 578227-M*

Re: U/SERC/02/2023

10 January 2023

Dr Pung Pit Wan
Head, Department of Psychology and Counselling
Faculty of Arts and Social Science
Universiti Tunku Abdul Rahman
Jalan Universiti, Bandar Baru Barat
31900 Kampar, Perak.

Dear Dr Pung,

Ethical Approval For Research Project/Protocol

We refer to the application for ethical approval for your students' research project from Bachelor of Social Science (Honours) Psychology programme enrolled in course UAPZ3013/UAPZ3023. We are pleased to inform you that the application has been approved under <u>Expedited Review</u>.

The details of the research projects are as follows:

No	Research Title	Student's Name	Supervisor's Name	Approval Validity
1.	Personality Traits and Masculinity as Predictors of Homophobia Among Malaysian Young Man	1. Chiew Yee Kuan 2. Esther Ching Qian Han 3. Ling Chui Hong	Dr Chie Qiu Ting	10 January 2023 – 9 January 2024
2.	Social Media Use and Self-esteem as Predictors of the Risk of Experimentation with e-cigarettes Among University Students in Malaysia: Peer Influence as Mediator	1. The Xin Rou 2. Tam Jing Yi Evelyn 3. Yap Xue Li		
3.	"The Soft Things That We Hold Onto" – A Study on the Association Between Attachment Styles, Presence of Transitional Objects and Psychological Security Among Malaysian Young Adults	1. Poon Ying Ying 2. Chow Yu Ying 3. Sam Hei Man		
4.	The Predicting Effects of Attitudes, Subjective Norms, Perceived Behavioral Control on the Intention Towards Food Waste Reduction Behavior Among Malaysian Young Adults	1. Chan Hooi Mui 2. Shirley Lok Xiao Rui 3. Tee Hui Lin	Dr Gan Su Wan	
5.	Parent-Child Relationship, Perceived Social Support, and Perceived Discrimination as Predictors of Well-Being Among LGBTQ Emerging Adults in Malaysia	1. Haw Ying Huei 2. Lee Nie 3. Yashnevathy a/p Govindasamy		
6.	Personal Growth Initiative, Self-efficacy and Social Support as Predictors of Life Satisfaction Among Undergraduate Students in Malaysia	1. Diu Jia Suan 2. Chow Wen Chung 3. Tneh Sin Lin		
7.	Self-esteem, Locus of Control and Hopelessness as Predictors of Depression Among University Students in Malaysia	1. Cheang Yen Thung 2. Chuah Yue Xuan 3. Kelvin Goh Wei Jin	Dr T'ng Soo Ting	

The conduct of this research is subject to the following:

(1)   The participants' informed consent be obtained prior to the commencement of the research;

(2)   Confidentiality of participants' personal data must be maintained; and

(3)   Compliance with procedures set out in related policies of UTAR such as the UTAR Research Ethics and Code of Conduct, Code of Practice for Research Involving Humans and other related policies/guidelines.

(4)   Written consent be obtained from the institution(s)/company(ies) in which the physical or/and online survey will be carried out, prior to the commencement of the research.

Should the students collect personal data of participants in their studies, please have the participants sign the attached Personal Data Protection Statement for records.

Thank you.

Yours sincerely,

Professor Ts Dr Faidz bin Abd Rahman
Chairman
UTAR Scientific and Ethical Review Committee

c.c   Dean, Faculty of Arts and Social Science
         Director, Institute of Postgraduate Studies and Research

Appendix E

Pilot Study – Reliability

Rosenberg's Self-esteem Scale

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.748	.744	10

Adapted Levenson Multidimensional Locus of Control Scale

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.822	.818	24

Herth Hope Index

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.785	.802	12

Patient Health Questionnaire 9

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.891	.892	9

Appendix F

Boxplot after Univariate Outlier Cleaning

Rosenberg Self-esteem Scale
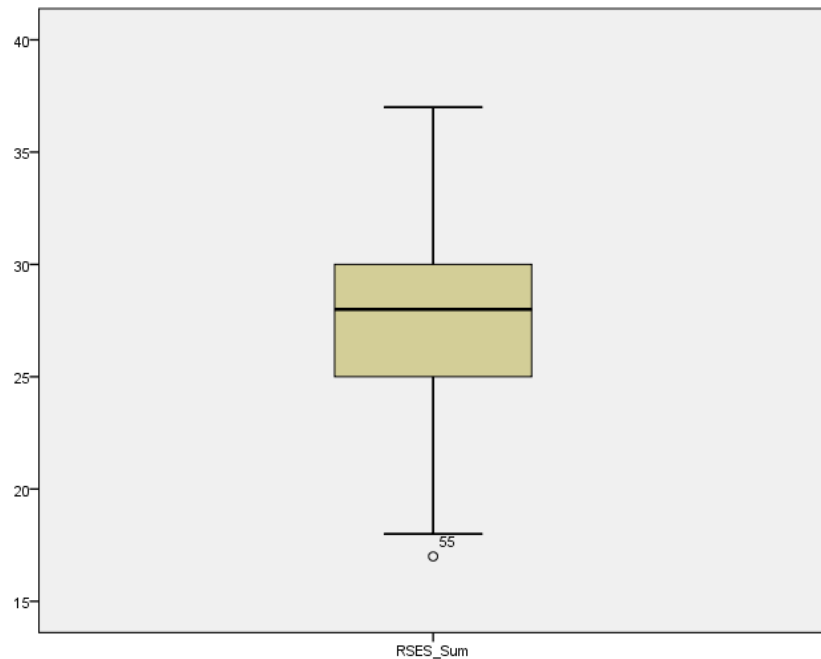
Adapted Levenson Multidimensional Locus of Control Scale
Internal Locus of Control
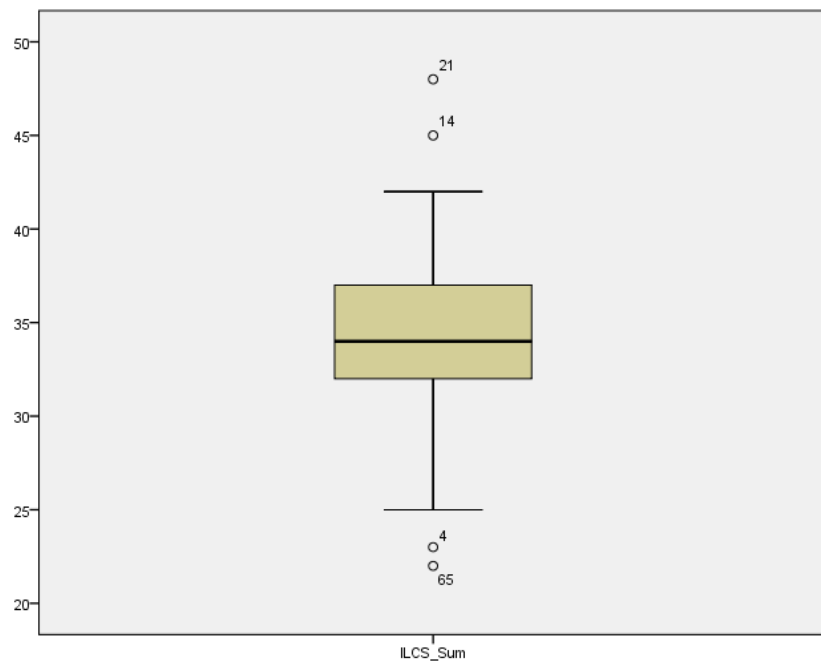
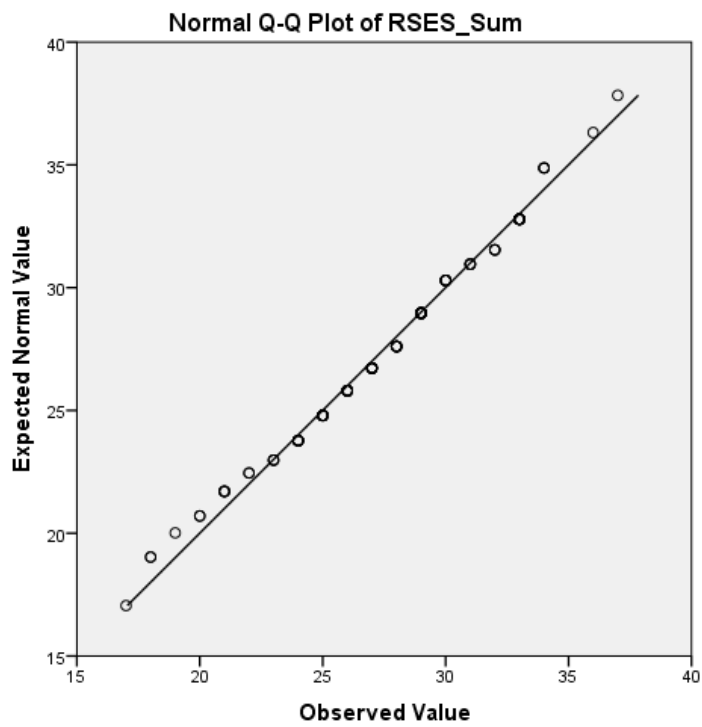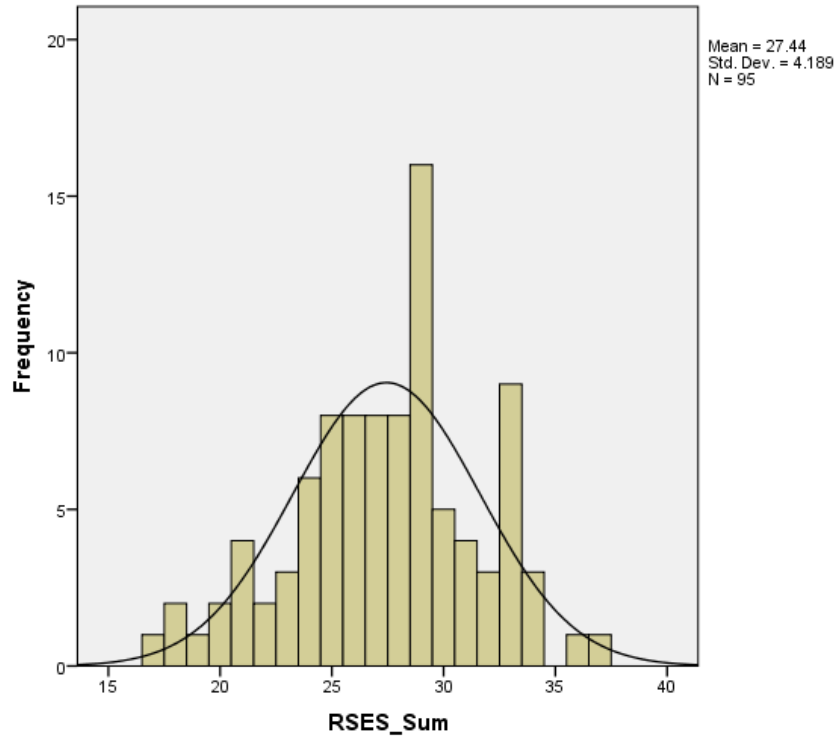*External Locus of Control*
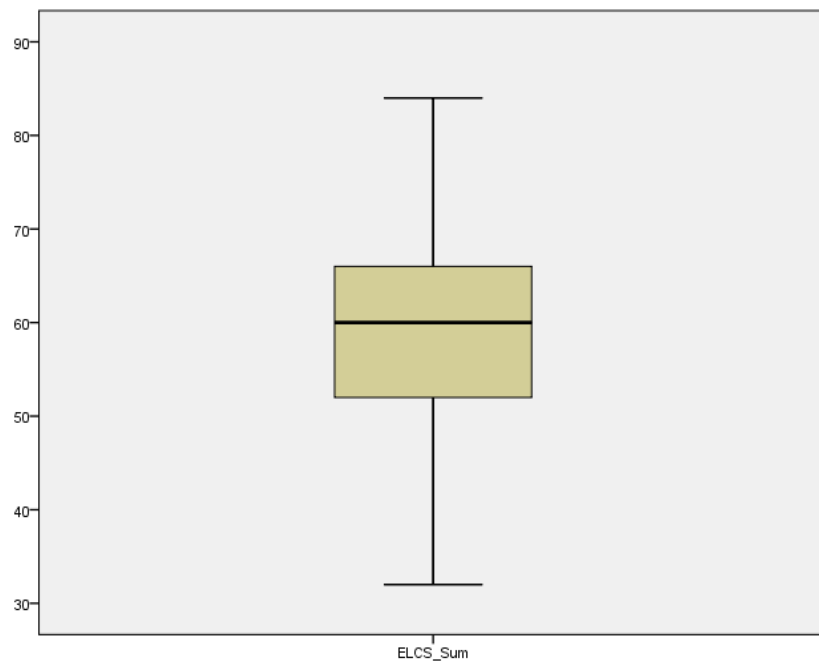
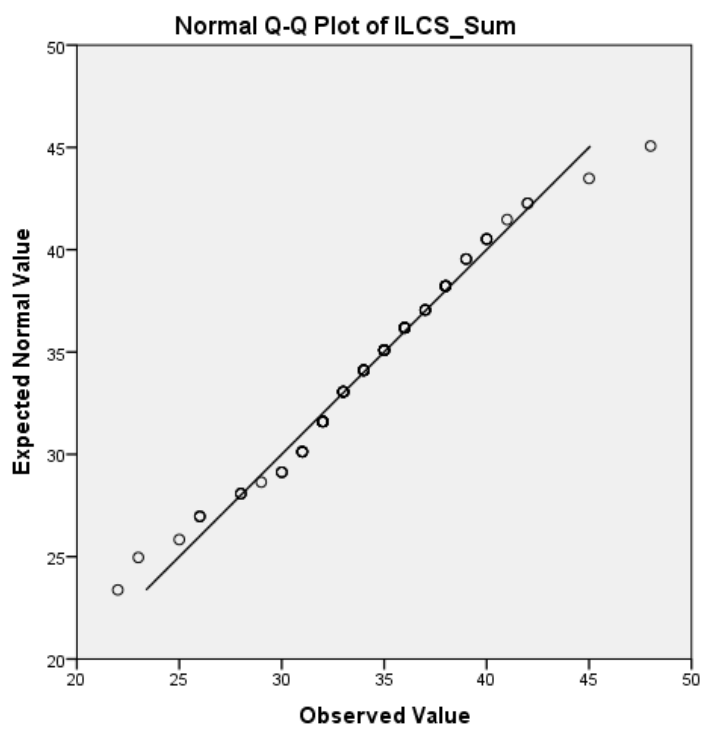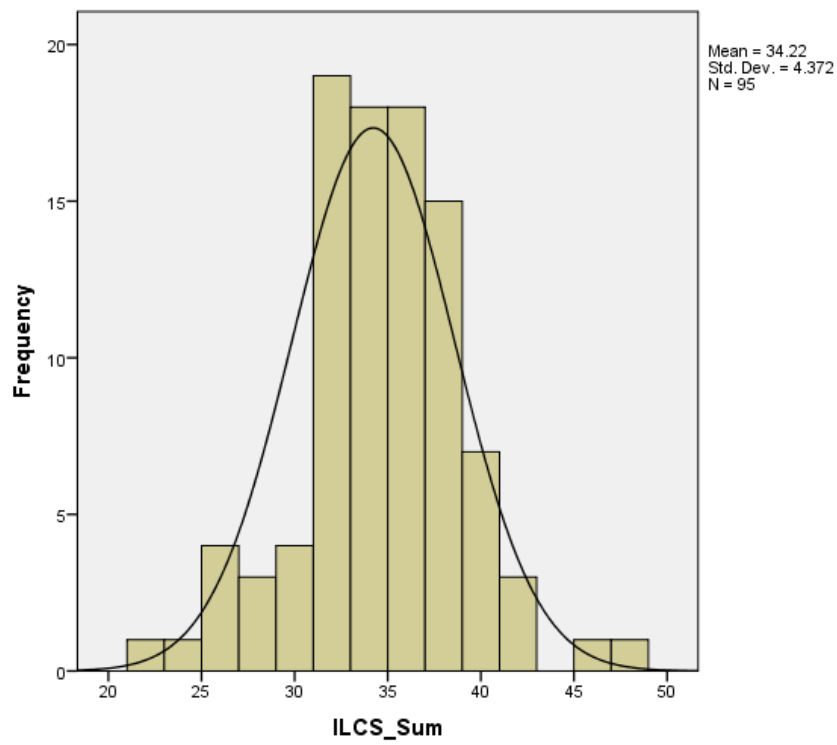Herth Hope Index
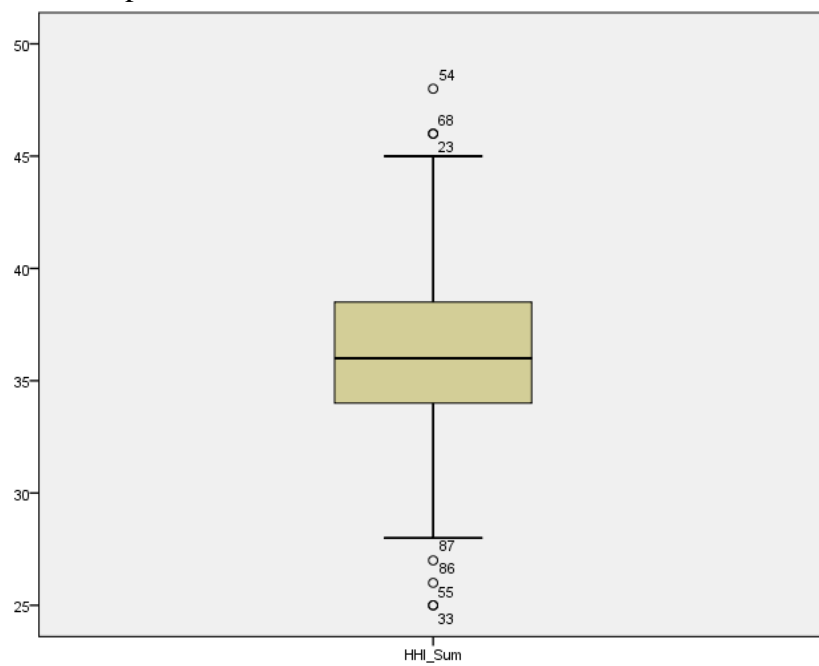
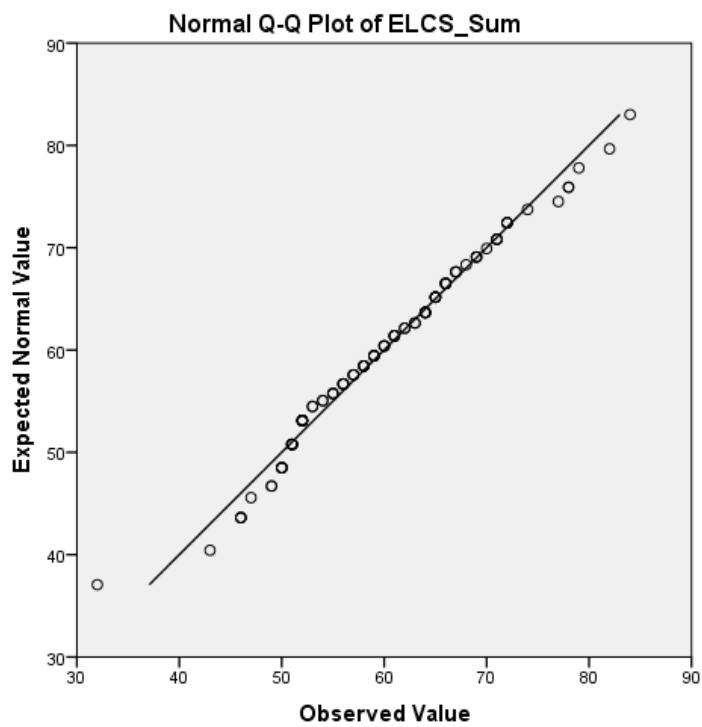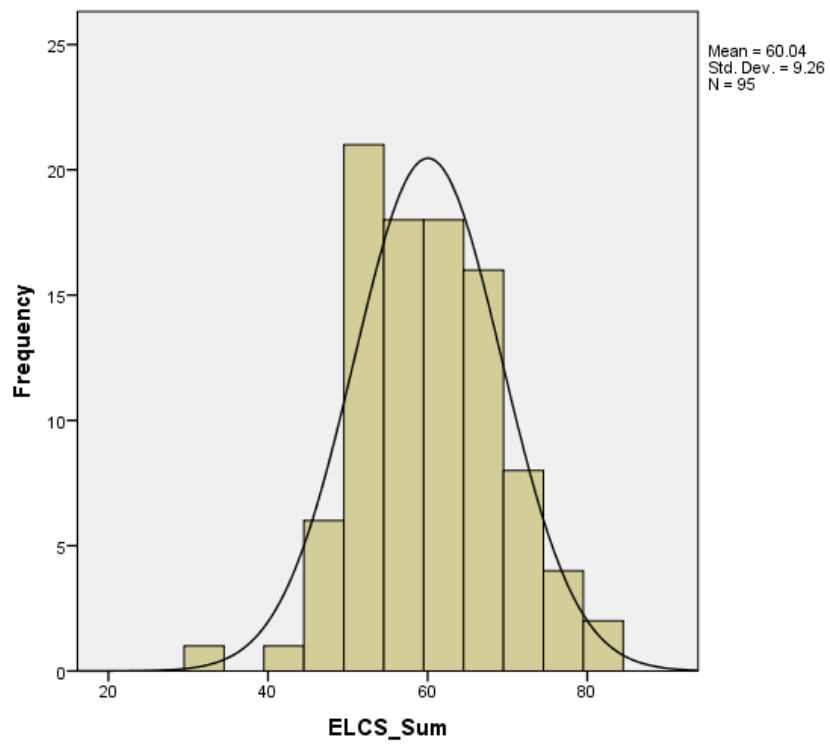Patient Health Questionnaire 9
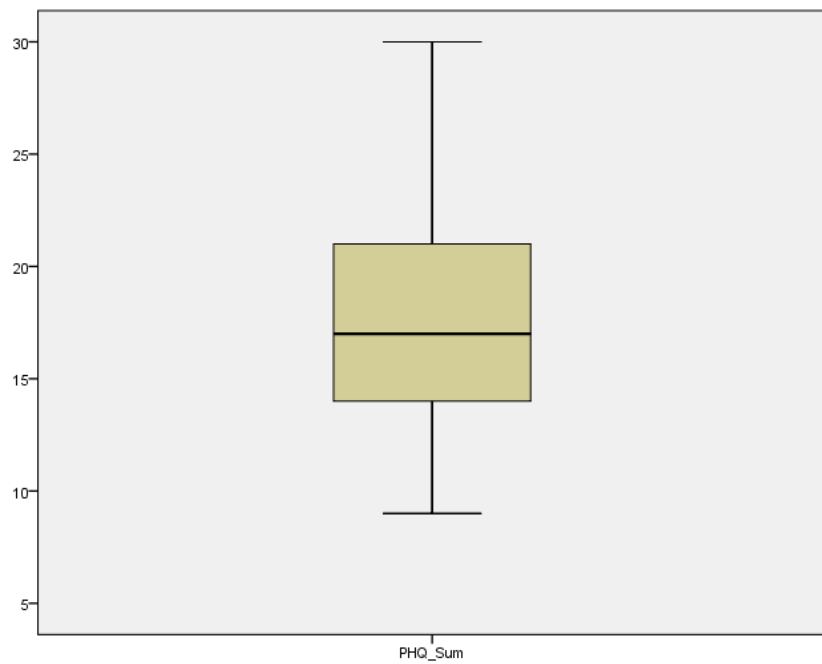
Appendix G
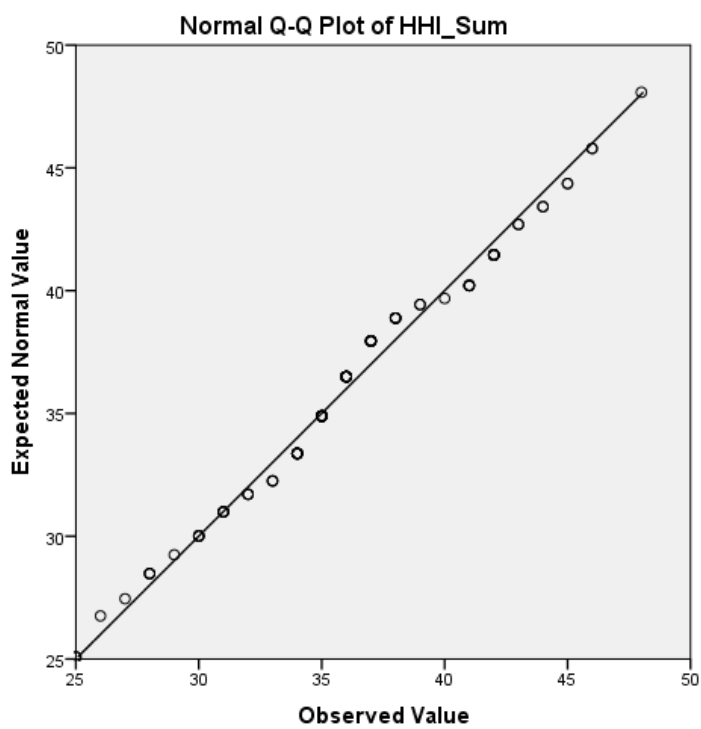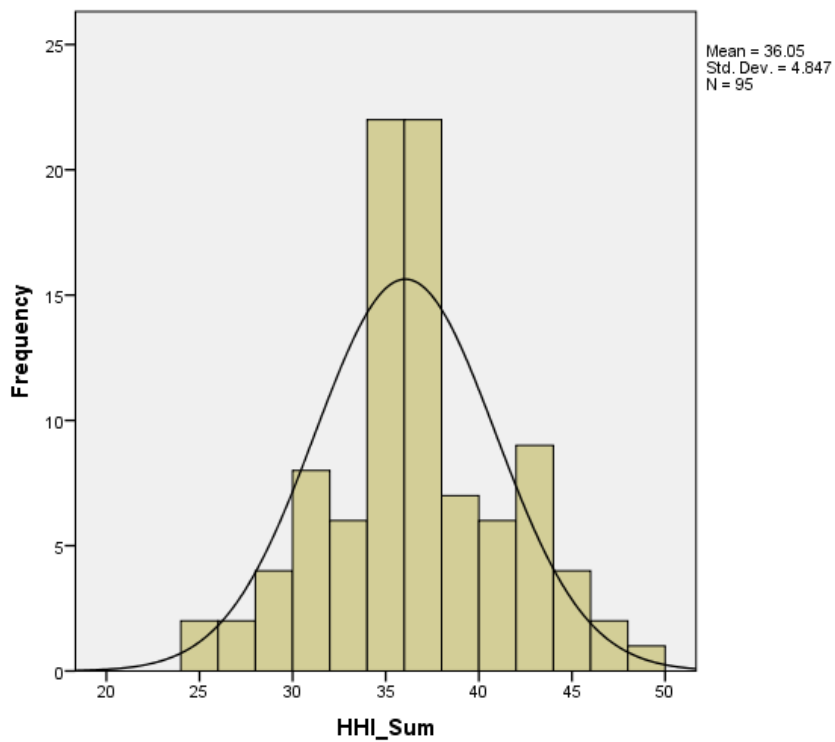
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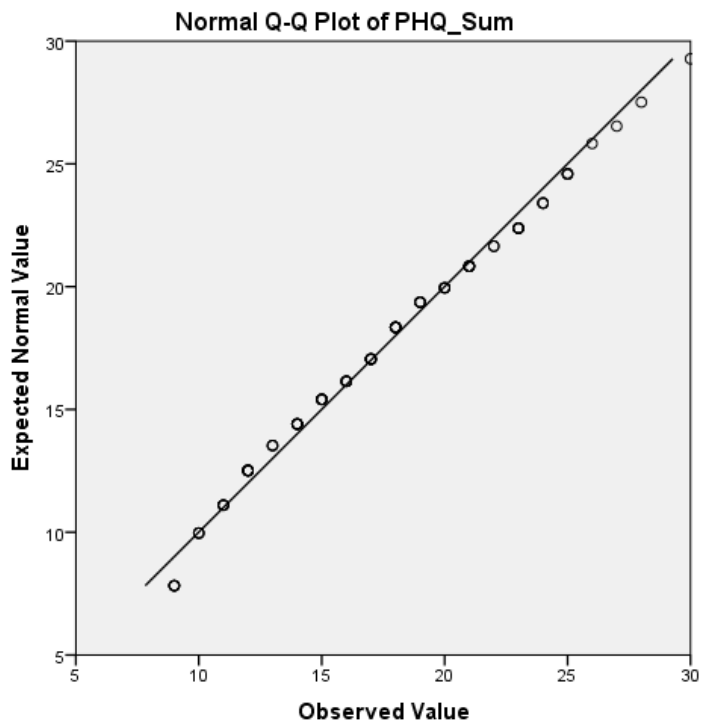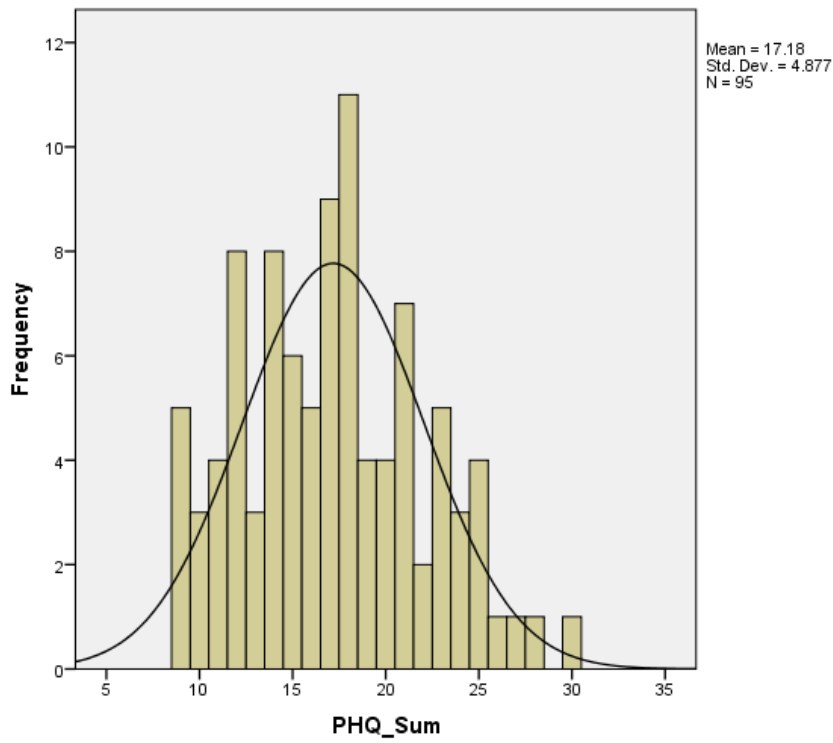
Self-esteem

Internal Locus of Control

External Locus of Control

Hopelessness

Depression

Appendix H

Kolmogorov-Smirnov (K-S) Test

Self-esteem

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
RSES_Sum	.087	95	.072	.982	95	.207

a. Lilliefors Significance Correction

Internal Locus of Control

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
ILCS_Sum	.095	95	.034	.979	95	.130

a. Lilliefors Significance Correction

External Locus of Control

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
ELCS_Sum	.071	95	.200[*]	.985	95	.343

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Hopelessness

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
HHI_Sum	.117	95	.003	.978	95	.110

a. Lilliefors Significance Correction

Depression

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
PHQ_Sum	.086	95	.081	.977	95	.086

a. Lilliefors Significance Correction

Appendix I

Multiple Linear Regression Assumption

Durbin-Watson Test

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.650[a]	.422	.396	3.789	1.975

a. Predictors: (Constant), HHI_Sum, ELCS_Sum, ILCS_Sum, RSES_Sum

b. Dependent Variable: PHQ_Sum

Variance Inflation Factor (VIF) Values and Tolerance Values

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	19.766	4.873		4.056	.000		
	RSES_Sum	-.422	.133	-.363	-3.169	.002	.491	2.038
	ILCS_Sum	-.122	.118	-.109	-1.030	.306	.573	1.746
	ELCS_Sum	.209	.050	.397	4.147	.000	.700	1.428
	HHI_Sum	.017	.119	.017	.141	.888	.459	2.178

a. Dependent Variable: PHQ_Sum

Appendix J

Turnitin Summary Report

Self-Esteem, Locus Of Control, Hopelessness As Predictors Of
Depression Among University Students

ORIGINALITY REPORT

18%	15%	8%	5%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	eprints.utar.edu.my Internet Source	6%
2	core.ac.uk Internet Source	2%
3	Helen Arkorful, Sam Kris Hilton. "Locus of control and entrepreneurial intention: a study in a developing economy", Journal of Economic and Administrative Sciences, 2021 Publication	1%
4	www.ncbi.nlm.nih.gov Internet Source	<1%
5	Solomon B. Oguntuase, Yanlin Sun. "Effects of mindfulness training on resilience, self-confidence and emotion regulation of elite football players: The mediating role of locus of control", Asian Journal of Sport and Exercise Psychology, 2022 Publication	<1%
6	Submitted to University of Southampton Student Paper	<1%